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ANIMAL EXPERIMENTATION IN RELATION TO EPIDEMIC CEREBROSPINAL MENINGITIS *

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Epidemic meningitis, or, as the disease is often termed, cerebrospinal meningitis, is caused by a peculiar micro-organism, *Diplococcus intracellularis* or meningococcus, that gains entrance to the membranes surrounding the brain and spinal cord, where it sets up an inflammation that terminates in death, or, when life is spared, in many instances, in paralysis, imbecility or some other serious condition. Epidemic meningitis, in the past, had been abhorred alike by the laity and the medical profession. To the one it brought consternation by reason of its apparently mysterious onset as well as its terrible effects; and to the other, distress because of helplessness in dealing with so malignant a disease. Now, happily, the situation is wholly changed. Mystery no longer attends the appearance of the disease, and the discovery of a specific method of treatment has brought the malady within the power of medical control. This revolution has been accomplished through the discovery of the specific micro-organism or germ which causes the disease,[1] the manner in which this germ leaves an infected to enter a healthy body,[2] where it sets up the disease, and, particularly, by the discovery, through animal experimentation, of a curative product, the so-called antimeningitis serum.[3]

It would be a mistake to suppose that epidemic meningitis prevails only in the form of epidemics, properly speaking. Indeed, we know that the epidemics represent special manifestations of the disease and that an isolated or so-called sporadic form of the same disease constantly prevails in many parts of the world. The disease is kept alive through these isolated cases and the epidemics arise from them, as a result of certain fortuitous circumstances, of which only a part are at present understood.

Within a decade, the epidemics of meningitis have become more frequent than they were for a period of a quarter of a century or longer before. In the past, the epidemics received the name of "spotted fever," from the circumstance that a hemorrhagic eruption of the skin often attends the disease. The discovery of the germ cause of the disease was made less than a quarter of a century ago, and it has been now demonstrated, beyond all doubt, that this germ is responsible for the epidemic as well as for the sporadic cases of the disease. The renewed intensive studies of meningitis, with the aid of animal experimentation and all the laboratory appliances produced by modern bacteriology that have characterized the period of prevalence of this last epidemic, have shown the manner of infection and thus have pointed the way to the application of preventive measures, and have furnished as well the specific and highly effective therapeutic weapon for its cure.

HOW THE PROBLEM OF FINDING A CURE FOR EPIDEMIC MENINGITIS WAS SOLVED

It cannot be regarded as remarkable, in view of the appalling mortality and the severe consequences of the disease, and of the absence of all really efficient means of combating it, that an effort should have been made to influence its course by means of an antiserum. At the present state of our knowledge concerning the immunization of animals with bacteria, it could be predicted that the employment of cultures of *Diplococcus intracellularis* for immunization purposes would lead to the development of an antiserum of some degree of potency, but whether this antiserum would prove of any value in the treatment of epidemic meningitis in human beings obviously could not be foreseen.

In carrying into practice the idea of the employment of an antiserum, two methods of proceeding were available. The antiserum could be produced and then applied empirically in the treatment of the disease, or an experimental basis might first be sought, on which the employment of the antiserum in man might ultimately come to be based. The first, or empirical method, as a matter of fact, was followed to a large extent in Germany,[3] while the second, or experimental method, was employed in the United States.[3] How important this difference came to be is indicated by the fact that the early results of the serum treatment of epidemic meningitis as reported from Germany, where the serum was employed chiefly by subcutaneous injection, were so unsatisfactory and unpromising that it is not likely that the serum would have come to be generally employed with confidence;[3] while, on the other hand, the experimental establishment of the value of the antiserum in controlling experimental meningitis produced in monkeys, when the serum was injected directly into the membranes surrounding the brain and spinal cord, as was done in America by

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1. Weichselbaum: Fortschr. d. Med., 1887, v, 622.
2. Goodwin and Scholly: Jour. Infect. Dis., 1906, Supplement No. 2, p. 21. Flügge: Klin. Jahrb., 1906, xv, 353. Flexner: Jour. Exper. Med., 1907, ix, 142.
3. Flexner: THE JOURNAL A. M. A., 1906, xlvii, 560; Jour. Exper. Med., 1907, ix, 168. Jochmann: Deutsch. med. Wchnschr., 1906, xxxii, 788. Wassermann: Deutsch. med. Wchnschr., 1907, xxxiii, 1585. Schoene: Die Therapie der Gegenwart, 1909, xlviii, 52. Flexner and Jobling: Jour. Exper. Med., 1908, x, 141-690. Flexner: THE JOURNAL A. M. A., Oct. 30, 1909, p. 1443; Internat. Clin., 1909, Series 19, iv.

Flexner,[3] supplied the actual basis on which the successful serum treatment of epidemic meningitis in man has come to rest.

It is desirable here to recall that the injection of living cultures of *Diplococcus intracellularis* into the serous cavities of small animals, such as mice, guinea-pigs, and rabbits, leads to an intoxication and rarely to an infection causing their death.[4] The experimental effects thus produced are highly dissimilar to the lesions present in the natural disease in man. As a consequence, the mere combating of this experimental disease by means of an antiserum could not afford an adequate support for the employment of the antiserum in man. Early in his experiments, Dr. Flexner found it possible to produce in certain species of lower monkeys, among which *Macacus rhesus* was shown to be well adapted, an acute inflammation of the meninges, or meningitis, by the direct injection of active cultures into the subdural space of the spinal cord, after which there develop the lesions and sometimes the symptoms corresponding to those present in the natural disease in man (Flexner[4]). This being true, it is a fair assumption that if the antiserum is capable of controlling such an infection, its favorable action in the natural disease in man might be fairly predicted. This fact became an important basis for the employment of the antimeningitis serum in the natural infection with *Diplococcus intracellularis*, constituting epidemic meningitis in human beings.

In working out the properties of the antimeningitis serum, experimentally produced, the important fact was discovered that the serum possesses both direct and indirect power of destroying the meningococci. In common with normal serum, but in a far greater degree, it exercises direct bactericidal effect on cultures of the meningococcus. This influence depends in considerable part on the degree of concentration in which the serum meets the bacteria. Weak dilutions of the serum exercise little or no effect, while strong concentrations have a marked injurious action. Now, this necessary degree of concentration of the serum at the site of multiplication of the diplococci can fortunately be secured by injecting the curative agent directly into the membranes about the spinal cord and brain through so-called lumbar puncture, in which a needle is introduced directly into the spinal canal. The serum thus introduced needs to be applied to the site of the inflammation in a state of strong concentration. If the serum be injected beneath the skin or into the blood with a view of having it carried to the site of the disease, it suffers, first, an enormous dilution, and, secondly, fails to reach the site of inflammation in any considerable amount, for the reason that substances contained within the blood are eliminated very imperfectly into the cerebrospinal fluid.[5] As already pointed out, the mistake made by the German school followed on a lack of clear understanding of the essential principles underlying the action of the antiserum, which they failed to perceive because their employment of the serum was empirical, while, in America, the employment was based directly on the facts brought out by animal experimentation.

There is another point which should not be overlooked in considering the problem with which experimenters were confronted in the production of a curative antimeningitis serum. Once it was established not only that such a serum could be produced in animals, but also that it was capable of modifying favorably the course of experimental meningitis in monkeys, it became imperative to ascertain whether the serum injected into the membranes of the central nervous system exercised any injurious action on the adjacent sensitive nerve structures themselves. It would have been a hazardous undertaking to begin the injection by lumbar puncture of the antiserum into human beings, had it not been proved that repeated injections carried out in animals were without injurious effect. This fact was established by the successful treatment of experimental meningitis in the monkey by means of the antiserum, for the injections into the membranes arrested the inflammatory processes and destroyed the diplococci, so that the animals quickly returned to a normal condition, while no perceptible injurious effect resulted from the serum itself.

At this point, a strictly experimental basis had been secured for the employment in human beings of an antiserum in the treatment of epidemic meningitis. There remained to be determined, however, whether this antiserum was capable of being produced on a sufficiently large scale to make it available for the treatment of human beings during the prevalence of epidemics of the disease. The earlier experimental work was carried on with small animals, but it became necessary now to turn to larger animals for the purpose of producing adequate supplies of the serum. The horse was the animal chosen, for the reason that its serum is in itself practically innocuous when injected into human beings, and because it yields a large amount of blood readily. It was quickly ascertained that the horse was subject to immunization with cultures of *Diplococcus intracellularis* and would, through successive inoculations and after a time, yield an antiserum of high potency. The method of preparation of the antiserum consists in the injection alternately of cultures of *Diplococcus intracellularis* and an extract soluble in water prepared from the cultures. The animals are, at the beginning of the treatment, highly susceptible to the effects of the injection of the diplococcus, so that it has been found well to employ, first, cultures which have been killed by heat at 60 C., and, later, when the animal has adapted itself to the injections and developed resistance, to resort to the living bacteria. In order to secure a serum rich in the curative or the so-called immunity principles, it was found advisable to continue the process of immunization from four to six months before collecting serum for therapeutic use.

If we undertake to summarize the manner of action of the antimeningitis serum in combating epidemic meningitis, we may say (a) that it possesses the power of acting directly on, and inhibiting the growth of, or of destroying outright, the meningococcus; (b) that it possesses the property of increasing phagocytosis and promoting intracellular digestion of the diplococcus, through which the latter is at the same time detoxicated; and (c) that it exerts a certain neutralizing action on the soluble toxic products set free by the growth and by the disintegration of the meningococci (Flexner[3]).

THE TREATMENT OF EPIDEMIC MENINGITIS IN HUMAN BEINGS WITH THE SERUM

The antiserum had now been perfected. It had also been employed to cure experimental meningitis in monkeys. It had proved to be free of injurious effects when injected directly into the spinal canal of these animals. The question that now pressed was, Would it succeed in curing epidemic meningitis in human beings, and could it be injected with safety into the spinal canal of man?

4. Flexner: Jour. Exper. Med., 1907, ix, 105.
5. Flexner and Jobling: Jour. Exper. Med., 1908, x, 141; idem, p. 690.

The first opportunity to test the antimeningitis serum in human beings in the United States occurred in April, 1907. The publication of the effects of the serum in controlling experimental meningitis in monkeys led Dr. Crile,[6] of Cleveland, to bring to the attention of Dr. Flexner the fact of the prevalence of an epidemic of meningitis in the village of Castalia, Ohio. This epidemic, which was followed later by other epidemics of the disease elsewhere in Ohio, supplied the first opportunity to test the serum on human beings. The serum was first entrusted to Dr. L. W. Ladd,[7] of Cleveland, who proceeded to Castalia and made the first injections of the serum. Since the experiment now to be performed was of such significance, it assumed a dramatic character. To give some indication of the circumstances under which the serum was first applied in human beings, it should be stated that the village of Castalia has a population of about 600 persons, and that there developed there and in the country adjacent eighteen recognized cases of epidemic meningitis between January and April, 1907. Eleven of the eighteen cases were in adults and seven in children. Among the eighteen cases, there were twelve deaths and six recoveries. Among the latter, there were three recoveries without serum treatment. In all, three cases only were injected with the serum and all recovered. The serum was brought to Castalia in the early part of April at about the time that the epidemic was abating and new cases ceasing to arise. No conclusion, beyond the one that the injection of the serum into the spinal canal was itself not a source of danger in human beings, could be drawn from this small experience.

Epidemic meningitis appeared at Akron, Ohio, in April, 1907,[8] and embraced about twenty cases. Of these twenty cases, in nine the serum was not administered, either because they occurred before the antiserum was brought to Akron, or for other reasons. Among these nine cases, there was a single recovery. In contrast to this appalling result is the fact that in eleven cases of the disease, established as such by symptoms and bacteriologic examination, and treated with the antiserum, eight patients recovered and only three died. The epidemic continued to extend in Ohio, and appeared at Cleveland and then at still other points, so that now the serum began to be applied immediately as the disease arose. In each locality, however, certain patients were not subjected to the serum treatment and could be compared as controls with the cases which were treated with the serum. On the whole, the results were consistent. Without exception, more patients recovered under the influence of the serum treatment than without it.

The testimony of physicians very early was to the effect that the antiserum not only reduced the mortality, but that it exercised a highly favorable influence on the symptoms, course, manner of termination, and liability to relapse, of the disease. Besides the obvious effects on the clinical course of the disease, the serum also produces a marked and readily demonstrable beneficial influence on the inflammation existing in the membranes of the spinal cord and brain. It has now been shown that very soon after the intraspinal injection of the serum, the meningococci tend to be reduced in number in the inflammatory exudate, to disappear from its fluid parts, to be taken up partly or wholly by leukocytes, and to undergo disintegration. One of the striking effects of the serum injections is so to injure the meningococci that their cultivation outside the body is rendered difficult or impossible. Along with the destructive action of the antiserum on the meningococci go certain favorable changes in the inflammatory exudate through which it loses turbidity and tends to become clear. Closely associated with the loss of leukocytes by the cerebrospinal exudate, which attends its return to a limpid condition, is the reduction in the number of the general leukocytes of the blood, which, in favorable cases going on to recovery, fall rapidly and even critically in number (Flexner and Jobling[9]).

Dr. Flexner and his associate, Dr. Jobling, who gathered the first considerable list of cases treated with the serum, believed that their first publication, which included reports of about one hundred cases, was based on too small a number to justify any final deduction as to the value of the serum. Epidemic meningitis, in the meantime, continued to invade new territory in the United States, and to prevail in various localities abroad, so that additional data were being constantly secured concerning the action of the serum.

I will select a highly interesting and important example, which will serve to bring out the striking effects of the serum. Epidemic meningitis had begun to prevail severely in Ireland in 1907. One of the worst centers of the epidemic was Belfast, where a large number of patients with the disease came under the care of Dr. Robb,[9] who was the physician in charge of the important fever hospitals. His report on the disease states that in the first eight months of 1907, 255 patients were admitted to the hospital, among whom the mortality was 72 per cent. Within the last three months of this period, 45 patients were admitted, and this group showed a mortality of 82 per cent. In September of that year, the use of the antiserum, which had been obtained from the Rockefeller Institute, was begun. The first report deals with thirty patients treated in hospital with the serum, of whom twenty-two recovered and eight died, giving a mortality of 26 per cent. In the precise corresponding period, thirty-four patients were treated outside of hospital and received no serum, among whom the mortality was 85 per cent. The marked reduction in the mortality is not the only effect which Dr. Robb attributes to the serum. He points out that the clinical course of the disease is profoundly modified, and that in the patients treated with the serum, the period of illness is reduced, the long chronic course is practically eliminated, and the serious permanent consequences are greatly diminished. The highly favorable effects of the serum, which Robb emphasizes, constituted by no means a unique experience. The earliest observers in this country, and notably Chase and Hunt and Dunn,[10] dwelt on practically the same points. In the large number of reports which have appeared in print in the meantime a virtual corroboration of these early favorable observations has been presented.

THE EFFECT OF THE SERUM TREATMENT ON MORTALITY STATISTICS

Let us consider the influence of the serum treatment of epidemic cerebrospinal meningitis on the mortality of the disease as indicated by a statistical computation. In order to arrive at statistics which are strictly reliable, it is necessary to take into account only the cases in which the diagnosis has been established beyond perad-

6. Neufeld: Med. Klin., 1908, ii, 1341. Jobling: Jour. Exper. Med., 1909, xi, 614.
7. Ladd: THE JOURNAL A. M. A., 1908, ii, 1315.
8. Chase and Hunt: Arch. Int. Med., 1908, i, 294.
9. Robb: Brit. Med. Jour., 1908, i, 382; ii, 1341.
10. Dunn: THE JOURNAL A. M. A., 1908, ii, 15. For method of administration see Boston Med. and Surg. Jour., 1908, clix, 743.

venture. The establishment of the diagnosis is based partly on the clinical symptoms, but chiefly on the bacteriologic examination of the fluid removed by lumbar puncture from the cerebrospinal canal. Ultimately, the bacteriologic diagnosis is the more important, for the reason that, as we now know, other types of infectious meningitis may arise occasionally in the course of the epidemic disease, and the two are subject to confusion.[11] Moreover, when the clinical symptoms are alone utilized as a basis of diagnosis, there is always the possibility of confusing diseases not strictly due to inflammation of the meninges with epidemic meningitis.

In recognition of these possible sources of error, Flexner and Jobling[3] collated the reports of the disease from many different sources in America and Europe, basing their figures on cases in which the bacteriologic diagnosis was established. They found that the mortality reached by the disease during the height of the epidemics in the United States, Great Britain and Germany, was fairly the same and approximated 75 per cent. It is interesting in this connection to learn that the mortality of the sporadic form of the disease, as it has prevailed for the last few years in the United States, has not been considerably below 75 per cent., and it has sometimes been higher. If we consider the extremes of mortality occurring in non-serum-treated cases of cerebrospinal meningitis, proved to be caused by the meningococcus, we shall find that the figures range from about 68 per cent. to about 91 per cent. In his latest publication, Flexner[3] has subjected to analysis 712 cases of bacteriologically proved epidemic meningitis, in which the serum had been employed. This series of cases included all ages and periods of life, from infants a few weeks old to adults of advanced years. The collection has been made from a wide area, including the United States, Canada, Great Britain and France, so that it covers a wide variety of cases of the disease treated by practitioners generally, some of whom had had no previous experience with the use of the serum, and others who had used it in several scores of cases. Moreover, the serum had been applied at all stages in the course of the disease, namely, very early and very late after the appearance of the symptoms, and even toward the end of chronic cases. Consequently, in considering the value of the serum, it is desirable to take into account not only the gross mortality, but also the mortality as calculated according to the ages of the patients and the period of the disease at its first application. Epidemic meningitis is not equally fatal at all periods of life. Thus, in the very young the mortality tends to be very high, and in infants approximates 90 per cent. to 100 per cent. The disease is less fatal in older children and in young adults.

In the 712 cases analyzed, 488 patients recovered and 224 died, giving a gross mortality of 31.4 per cent. If we consider the important age groups, as they are known to affect the mortality, we shall find that among children from one to two years of age, of whom 104 cases were included in the tabulation, the mortality was 42.3 per cent. This figure represents an obvious great reduction, since, as has been stated, epidemic meningitis among infants of such tender ages has terminated fatally in the past almost invariably. Of the age groups between 2 and 15 years, there were 326 cases included in the tabulation, among which the mortality was 23.4 per cent. After the fifteenth year, the mortality, as represented by the tabulation, rises and exceeds 30 per cent. It would seem, therefore, that the most favorable period for the action of the serum, or for the favorable progress of the disease, is a certain middle period between infancy and adult life; but this immediate deduction is not justified for the reason that other factors must obviously be considered, such as the period of the disease at which the serum treatment was begun and the degree of effectiveness in the use of the serum which experience supplies.

Let us consider what the figures become when we analyze the 712 cases mentioned, according to whether the treatment with the serum was begun early or late in the course of the disease. We may choose, arbitrarily, as periods the first three days, the second three days and, then, any time later than the latter. Analyzed in this way, it found that 180 patients were injected with the serum within the first three days of illness, according to the clinical histories supplied, among whom the mortality was 25.3 per cent. In the second period, which extended from the fourth to the seventh day of the illness, shown by the clinical signs, 179 patients were injected, in whom the gross mortality was 27.8 per cent. Now, 129 patients were injected later than the seventh day of the disease, among whom the mortality rose to 42.1 per cent. These total figures indicate unmistakably that early serum injections are more effective than the later ones, which fact has an important bearing on our conclusions concerning the value of the serum. Moreover, if we should pick out one or two especially striking examples from the tabulation, the results become even more impressive. For example, seventeen children ranging in age from a few weeks to 2 years were injected with the serum in the first three days of illness, of whom only a single one died and sixteen recovered. This result is altogether extraordinary, when it is considered that in this period of life the usual mortality of the disease approaches 100 per cent. It is not probable that such a favorable result can be generally achieved, but that it could be achieved at all is a fact not without profound significance.

It was mentioned that the tabulation showed that in the age period beyond twenty years the mortality was higher than at the earlier periods. It is desirable to ascertain, therefore, whether adults really are, as would appear to be the case, less resistant to the infection or less subject to the action of the serum than younger individuals. Some light is shed on this question by the examination of the results of the serum treatment among adults, observed by those whose experience with the serum has been great enough to make it probable that they would obtain the maximum advantages which its use affords. The reports of such experienced observers as Ladd, Dunn, Sladen and Fulton[12] in the United States, Robb of Belfast, and Netter[13] of Paris, go to show that adults are not less subject to the curative action of the serum than are younger persons. Among the 712 cases are records of sixty cases occurring among adults and treated with the serum by these experienced physicians that, for all periods of the disease, show a gross mortality of 30 per cent. The largest single series of patients of this age period was treated by Robb. It embraced twenty-four cases, in which only four patients died, giving a mortality of 17 per cent.

I wish now to reproduce a tabulation (Table 1) compiled by Flexner,[3] which exhibits the prevailing mortality of epidemic meningitis in America, Great Britain,

11. Dunn: Am. Jour. Dis. Child., 1911, i, 95.

12. For American and foreign bibliography consult Flexner, Internat. Clin., 1909, iv, series 19; also Schepelmann, Wien. klin. Wchnschr., 1911, xxiv, 118.

13. Netter: Bull. de l'Acad. de méd., séance du 27 Juillet, 1909; Assn. française de pédiatrie, 1910.

Germany and France, according as the patients were or were not treated with the antimeningitis serum. The table has not been brought up to date, so that it does not include the latest American and Parisian figures. But it still suffices to impress its lesson.

TABLE 1.—REPORTED SERIES OF PATIENTS TREATED WITH THE ANTIMENINGITIS SERUM AND THE MORTALITY AMONG NON-SERUM-TREATED PATIENTS

By Whom Reported.	Number of Serum-Treated Patients.	Per Cent. Mortality.	Per Cent. of Mortality of Patients Non-Serum Treated.
AMERICA			
Dunn *	40	22.5	70
Chase and Hunt *	12	25	90
Sladen *	23	13	64
Fulton *	22	31	78.4
Koplik *	15	13.3	60
Ladd *	31	35.5	?
Morgan & Wilkinson *.	10	30	?
GREAT BRITAIN			
Robb *	90	30	75
Ker *	30	43	80
GERMANY			
Krohne †	59	40.6	66
Schoene ‡	30	27	53
Levy †	23	21.7	78
Többen †	29	34	56
FRANCE			
Netter *	50	18	83

* Flexner serum employed.
† Wassermann serum employed.
‡ Jochmann serum employed.

I have pointed out that one of the striking facts that speak for the value of the serum treatment is its greater efficiency when it is applied early in the course of the disease. How great the difference in effect is, according as the serum is applied early or late, is shown by the next tabulation (Table 2), which is taken from a recent report of Dopter.[15] He adopts the classification introduced by Flexner and Jobling, and considers the cases as they have come under the serum treatment in the three arbitrary periods discussed in a previous section. It should be remarked that Netter's figures are based on cases treated in Paris with the serum prepared at the Rockefeller Institute, while Dopter's figures are based on cases treated in France with the serum which he prepares at the Pasteur Institute.

TABLE 2.—MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT; CASES ANALYZED ACCORDING TO PERIOD OF INJECTION

Period of Injection.	Flexner.	Netter.	Dopter.
First to third day....	14.9%	7.14%	8.20%
Fourth to seventh day.	22.0%	11.1 %	14.4 %
Later than seventh day.	36.4%	23.5 %	24.1 %

The influence of age on the fatality of epidemic meningitis has already been alluded to, so that it becomes important to ascertain to what extent this factor can be eliminated through the specific serum treatment. Undoubtedly, increasing experience with the use of the serum is tending to remove the great differences hitherto observed; and the extent to which the age factor is being set aside is well shown by Table 3, taken also from Dopter's[15] last report. In interpreting this table, account should be taken of the fact that the epidemic of meningitis in France is the latest to have appeared in Europe and set in at a time when increasing experience elsewhere had shown the most effective way of administering the serum. This is probably the reason why Netter's and Dopter's figures are the best yet secured. That the epidemic was of average severity is shown by the mortality in non-serum-treated patients, which approximated 70 per cent.

15. Dopter: Ann. de l'Inst. Pasteur, 1910, xxiv, 96.

TABLE 3.—GROSS PERCENTAGE MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT, CASES ANALYZED ACCORDING TO AGE OF PATIENTS

Age Groups.	Reported by— Flexner*	Netter†	Dopter‡
Under one year	50.0%	50.0%	48.6%
One to two years	42.1%	0.0% §	20.1%
Two to five years	23.5%	16.6%	9.3%
Five to ten years	11.4%	12.5%	8.5%
Ten to twenty years	23.8%	0.0% ¶	10.2%
Above twenty years	26.4%	0.0% ¶	14.1%

* Rockefeller Institute serum administered by practitioners generally.
† Rockefeller Institute serum administered by Professor Netter.
‡ Pasteur Institute serum. Manner of administration not stated.
§ Six cases.
¶ Eight cases.

I wish now to present a bit of personal evidence in the form of a chart based on the cases of epidemic cerebrospinal meningitis, in which the patients have been admitted to the Children's Hospital in Boston since the year 1900. The average number of patients treated each year in the hospital is twenty. Up to the year 1907, a variety of modes of treatment were employed without accomplishing any real effect in diminishing the fatality of the disease. When the serum treatment was introduced in 1907, the mortality was at its height, that it, at about 80 per cent. The sudden decrease in mortality attributable to the serum treatment is shown in the sharp

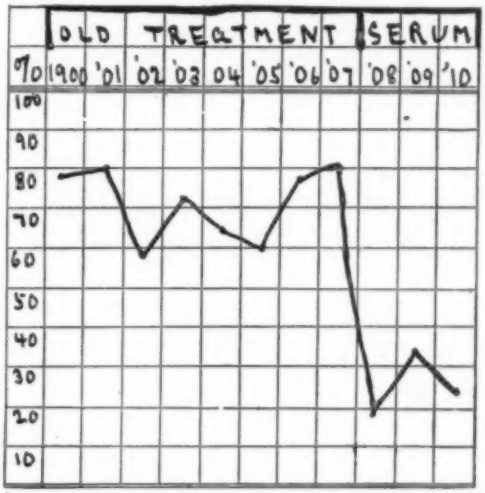

Chart showing the mortality from epidemic cerebrospinal meningitis at the Children's Hospital in Boston before and after the use of the serum treatment, during the eleven years since the diagnosis has been regularly confirmed by bacteriologic examination of the cerebrospinal fluid. The serum treatment was begun after Nov. 1, 1907. Each year shown in the chart is taken as beginning November 1 of the preceding calendar year.

drop in the curve and its continuation, with minor fluctuations, at this low level.

ATTENUATION OF THE SYMPTOMS

There is still another way in which the favorable action of the serum is disclosed, namely, in respect to the effects produced on the symptoms, course, duration, manner of termination and permanent consequences of the disease. In discussing this topic, I shall draw largely on my personal experience with more than 100 patients treated with the serum, and I shall also supplement my observations with extracts from the experience of others I have been able, up to this time, to subject only eighty of the cases to exact analysis from the present point of view; but I can state that the remaining twenty cases showed the same general effects.

I regard the favorable influence of the serum on the general condition and symptoms of the patients as the

most impressive immediate phenomenon. It often happened that within twenty-four hours there was a permanent return to consciousness, disappearance of the mental dulness or delirium, removal of the racking headache, relief of the hyperesthesia and control of the vomiting—all very distressing symptoms that accompany severe infections. To see patients pass within twenty-four hours, after one or two injections of the serum, from a state of great distress and unconsciousness to one of almost normal mentality is something the impressiveness of which is not easily to be overestimated.

Not every patient responds in this rapid manner to the application of the serum. Some patients who recover show a more gradual improvement in condition and symptoms; and still others, and particularly those in the late chronic cases, fail entirely to respond. The effects that are the slowest to yield are rigidity of the neck and Kernig's sign. Children in every other way normal may, at times, be observed playing in the ward while still having the neck retracted and yielding Kernig's sign. In Table 4 I have assembled and analyzed the eighty cases according to the manner of improvement.

TABLE 4.—MANNER OF IMPROVEMENT IN SERUM-TREATED CASES

Immediate and marked	34 cases
Immediate and slight	14 cases
Immediate and temporary	7 cases
Slow improvement	15 cases
No improvement	10 cases

We find, therefore, that the influence of the serum on the symptoms of epidemic meningitis coincides with the effects exerted on the local inflammatory exudate and the viability of the meningococci. In all but a few resistant cases, the diplococci are quickly rendered incapable of multiplication and the inflammatory process is arrested and brought to rapid resolution.

Another striking effect is on the course of the disease. The average period of duration of cases going on to recovery may be gathered from the calculation of Holt, based on the New York epidemic of 1905-6. Holt[16] states that in 350 patients who recovered before the serum was perfected, the disease endured one week or less in 3 per cent., and five weeks or longer in 50 per cent. These figures are to be contrasted with those of Flexner and Jobling,[3] who found that in 288 serum-treated patients the active symptoms persisted on the averages eleven days after the first injection.

The action on the manner of termination of the disease is also striking. Epidemic meningitis rarely terminates spontaneously by crisis. Indeed, the disease is better characterized as an infection tending to a fatal termination, or to a prolonged course and frequent relapses. Recovery when it occurs tends to be gradual or by lysis and almost never abrupt or by crisis. Yet in 275 serum-treated patients whose cases were analyzed by Flexner and Jobling,[3] the symptoms disappeared by lysis in 200 and by crisis in seventy-three. Hence, it can be concluded that about 25 per cent. of patients recovering under the influence of the serum do so by crisis. Robb, Dunn, Netter, Dopter and others have all observed and dwelt on the amelioration of the symptoms brought about by the serum treatment.

RARITY OF PERMANENT SEQUELÆ

The serious permanent effects of epidemic meningitis are chiefly deafness, blindness, paralysis and idiocy. It is necessary to consider to what degree these blighting results of the disease are affected by the serum treatment.

Flexner and Jobling[3] were the first to point out the infrequency with which serious consequences followed on the epidemic disease when patients were treated with the serum. Since then, and as larger and larger series of cases have come to be reported, other authors have emphasized the same fact, and notably Netter.[17] The serving consequences are of two kinds: one temporary, although persisting for some weeks or months; among these are lesions of the joints and partial deafness. Ultimately they disappear. The others are permanent, and include deafness, blindness, paralysis, etc. The joint affections can themselves be influenced by the serum treatment, since some of them are caused by secondary localizations of the meningococci in the joints, causing suppurative inflammation, which can be terminated, as Ladd[7] and later Netter[17] have shown, by direct injection of the antimeningitis serum into the inflamed part.

CONCLUSIONS

The published reports on the action of the antimeningitis serum leave no doubt of its value in the treatment of epidemic meningitis. No one can read the conservative report of Flexner and Jobling,[3] who regarded 400 cases as too few on which to base a final decision of the value of the serum, or the reports by many physicians based on observations at the bedside, without being convinced that this severe and pathetic disease has been largely conquered by means of specific serum-therapy. Those who were spared the pain of attending the disease before the days of the serum treatment cannot well imagine how hopeless was the outlook presented to the physician and how helpless he felt in the presence of this malignant malady; and it is, therefore, almost equally difficult to appreciate, by contrast, what a boon it now is to have at command this powerful remedy.

How all this has been accomplished cannot fail to interest all those who are concerned with the conquest of disease. The steps of the achievement I have endeavored to trace in the first part of this paper. The benign result was accomplished by scientific investigations, carried out logically, step by step, and directed toward the definite end of finding a cure for epidemic meningitis. We owe this cure entirely to animal experimentation, for it was through experiments on animals that the additions to our knowledge regarding this difficult problem were won, which culminated in the finding of the curative serum, and thus in the control, to a great extent, of the disease.

It can scarcely be questioned whether this scientific investigation was worth while, or whether the benefit accruing to humanity outweighs the sacrifice of the score of monkeys which contributed to the final result. In estimating the cost of the achievement, the fact should not be lost sight of that while the experimental part of the work leading to the discovery of the antimeningitis serum need never be repeated, the saving of human misery and of human lives, through the application of the serum, will go on indefinitely until such time as by the rigid application of hygienic preventive measures, many of which still remain to be discovered, epidemic meningitis is eradicated from the world.

The antimeningitis serum was kept under control by the Rockefeller Institute for more than three years while its action was being subjected to the closest clinical scrutiny, during which time it was being supplied gratis to hospitals all over the world. The control has just

16. Holt: Brit. Med. Jour., 1908, ii, 1336.

17. Netter: Bull. et mém. Soc. méd. d. hôp. de Paris, 1910, p. 131.

been relinquished and its preparation and distribution turned over to health authorities and private individuals. This action has been dictated by the consideration that the value of the serum as a curative agency is no longer under discussion, but has been established by as rigid clinical tests, carried out in many countries, as could well be devised.

We may, therefore, conclude with Dr. Flexner,[3] who, in his last report embracing 712 cases of epidemic meningitis, in which the patients were treated with the serum, says:

> In view of the various considerations presented, the conclusion may be drawn that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration of health, in all but a very small number of the recovered, thus lessening the serious, deforming and permanent consequences of meningitis; and of greatly diminishing the fatalities due to the disease.

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THE OPTOMETRY QUESTION AND THE LARGER ISSUE BEHIND IT*

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Before they were appreciated as an agency for the prevention and cure of disease, glasses had been used for five hundred years. The optical properties of lenses and of the eye had been worked out by physicists, Galileo, Keppler, Gauss, Brewster and others. Skilled opticians had met every demand made on them to correct the optical deficiencies of the organ of vision. Yet only a small minority of elderly people put back the limitations of age by wearing spectacles for reading. Perhaps one myope in fifty had extended his range of vision by concave lenses. The royal astronomer at Cambridge, England, and a philosophic clergyman in New York, with the help of a Philadelphia optician, had worked out corrections for their own astigmatism.

Meanwhile Milton, Eulenberg and many other scholars went blind from eye-strain. Pepys, at the age of 37, laid aside his inimitable diary, giving up a hopeless struggle with hyperopia, and preparing for blindness which never came, though he lived thirty years afterward. Educated Germany grew largely myopic, and the great mass of suffering from eye-strain and disability caused by ametropia went wholly unrelieved.

But sixty years ago a trained physiologist and physician, Donders, became interested in the optical defects of the eye. Other men trained in medicine took up the subject—Snellen, Knapp, Dyer, Weir Mitchell and their successors. The influence of errors of refraction and their correction was seen from a new point of view, and the use of spectacles was enormously extended. To-day more lenses are worn for correction of eye defects in a single city than were used sixty years ago in the whole world.

From the imperfections of the human eye that disqualify it for meeting the requirements of modern life, and the ability to give relief by properly chosen lenses, there has developed a great industry engaged in supplying the mechanical aids to vision, and a great opportunity for professional service in bringing to each individual the peculiar assistance required. As in the opening up of any new field of activity, men have rushed into this one to exploit the opportunities here offered. Among the medical profession a certain number have appreciated this field for service, and the rewards for such service. On the other hand, among those who approached it from the non-medical, the mechanical and commercial sides, many have perceived its richness. Each party has pushed forward, proclaiming its superior right, by priority and fitness, to the field in question, like prospectors in a new mining camp. In this way has arisen the optometry question, which now seems to be reaching its most acute stage.

In discussing this question two important facts should be kept in view.

1. The process of estimating the refractive condition of the eye is a distinct technical process. It is as different from a chemical analysis, a microscopic examination, a physical exploration of the chest, a skilful combination of drugs, or a capital operation on the brain or abdomen, as these are different from one another. Ability to measure the refraction of the eye is no more to be presupposed from ability to do these other things than is ability to remove a brain tumor to be presupposed from a possession of skill in chemical analysis.

2. Errors of refraction and their measurement are of general interest because of their broad general influence on health. Until this influence was recognized the economic importance of spectacles, or of their adaptation to the eye, was insignificant. All attempts to escape this relation of glass-fitting to health, and to the departures from it that constitute disease, will fail. Bearing in mind these two facts, the special character of the process of measuring the refraction of the eye, which may well entitle it to a distinctive name—optometry, and the clear inclusion of optometry within the circle of the healing arts, let us look at the present situation with regard to it.

THE OPTOMETRY LIE

In twenty-six states of this country and three provinces of Canada there are so-called "optometry laws." All of them are based on the supposition that the practice of optometry is actually and properly something apart from the practice of medicine. They assume that a person may be qualified to practice optometry who possesses but a superficial and theoretic knowledge of the eye, and who is ignorant of the structure, workings, and diseases of all other parts of the body. Let us discuss the subject on the basis of this theory, ignoring for the time the practice which, under each of these laws, has conferred the advertising advantages of a state license on all who have been engaged for a certain period in the optical business, without even such limited knowledge as these laws assume to be necessary.

The most able and brilliant champion of this theory of optometry, recognized as such by optical associations and journals, Mr. C. F. Prentice, president of the State Optometry Board of New York, has recently put forth a challenge to the editors of the medical journals. It includes seventeen statements, which he calls "tersely stated truths." These so nearly express the thoughts and claims of optometrists in general that some of the maxims have been adopted as mottos to be displayed on buttons at their optical meetings, in their advertising, and in the campaigns before the legislatures.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The first of these statements is "Physics is not physic." This is one of those epigrams, containing the literal, insignificant truth, which best serves to hide the larger falsehood implied in the use made of it. The words "physics" and "physic" are derivatives of the same Greek root, with history and meaning in common. They have become differentiated, the one to mean the science or sciences of the phenomena associated with matter in general, the other to mean the application of the resources of the material world to the relief of disease and suffering. Physics, like chemistry, may be so applied in the service of "physic" or medicine; indeed, to refuse the aid of physics to medicine would be as absurd as to deny medicine the aid of chemistry. The shaping of a lens, according to the laws of optics, belongs no more peculiarly to physics than does the shaping of a brace or splint; and either may be as true and legitimate a curative agent as a serum or a drug.

The second of these "tersely stated truths" is, "A lens is not a pill." No, it is not a pill; neither is a pill a hypodermic syringe, or a clinical thermometer, or a stethoscope, or a collyrium, or an operating-knife. But a lens, like all of these, may be used to prevent or cure disease or relieve suffering. Neither the lens nor the pill are of general interest simply because they are solids of a certain limited size, specific gravity, or color. They are of general interest because they may be made to prevent or cure disease or relieve suffering; because they are efficient means of accomplishing what men in general desire to accomplish. And for this reason they have equal claims to recognition in the armamentarium of those who practice the healing art.

Then Mr. Prentice goes on, (3) "A lens treats light"; (4) "A lens does not treat disease." The lens itself exerts the same influence on light in the engineer's transit, the astronomer's telescope, the microscope, the opera glass, or the photographic camera. In each of these uses of the lens some men are interested. But the general important interest that has thrust the optometry question into the arena of heated discussion and legislative action is the application of the lens to the relief of suffering or the treatment and prevention of disease. So when Mr. Prentice goes on to say (5) that "Optometry is not medical science," and (6) that "Optometry is founded on optical science," he has put himself pretty fairly in opposition to the facts he is trying to deal with.

Using the term "medical" in the broader sense in which it is generally used, and which every intelligent man understands, he would be far nearer the truth if he were to say that optometry is only a part of medical science. Optometry is the application of optical science to the purposes of medical science. But enough has been said to show the basis of independence and separation from medicine on which optometrists have claimed, and to some extent have secured, recognition as a distinct pseudo-profession.

To illustrate the falsehood of that claim one does not need to go beyond their own utterances. In the same number of the *Optical Journal and Review* from which Mr. Prentice's challenge has been quoted, I find in the first article what purports to be a statement of the permanent action of atropin on the accommodative function, "which our friends the oculists have not noticed." There is a paragraph as to diagnosing disease by the iris, which takes seriously a scheme of quackery that has arisen in Germany. For changes in the refraction of a case it is editorially suggested, "Possibly there is some pathogenic condition within the retinal blood-vessels which has caused them to swell at times." And for eyes that see print of different sizes, "It looks very much like a pathologic condition of the eye whereby the rods and cones are being forced apart, perhaps by some growth behind them." The address of Mr. Parsons before this Section last year is quoted *in extenso*. Of course, the medical opinions in any way adverse to the use of cycloplegics are paraded as completely settling the practical question of the use or non-use of those drugs. One of the articles is headed, "The Cooperation of the Patient"; and another, "How to Please your Patient"—not "customers" or "clients," but "patients," the term always used as correlative of physician or surgeon. One correspondent urges that the optometrists "should be allowed to use all means in order to make a proper diagnosis." "With a two or three years' course in a reputable college, optometrists will easily master the pharmacal, clinical, and therapeutic value of the very few drugs necessary in eye work." Another correspondent discusses the physiologic action of atropin, making comparisons with that of alcohol. It is not surprising also to find here that the Rhode Island Society of Optometry has decided, "that optometrists are justified in using the title of doctor, that it is a benefit to them from a commercial standpoint, and that it tends to elevate the profession."

The favorite definition of optometry in the laws relating to it is: "the employment of any means other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof." Some of the laws require examinations in the anatomy and physiology of the eye. Others leave the scope of the examination entirely to the Board of Examiners. The discussions in the societies of optometrists and their advertisements show keen appreciation of the medical bearings of their work.

In their actions, which speak far louder than the words in which they plead for special legislation, the optometrists show that they understand that optometry, as they wish to develop it and practice it, is a part of the general practice of medicine. In their argument for the legal recognition they desire, they quote as a pertinent conclusive predecent, the profession of dentistry and its legal status; and when they do this they raise the true question, the greater issue behind optometry.

SHALL THERE BE ONE OR SEVERAL PROFESSIONS OF MEDICINE?

This is the question that is facing, not only the ophthalmologist, but equally the whole medical profession and the public. No true profession will ever be permanently established on the narrow basis on which optometry legislation has been advocated. The measurement and correction of errors of refraction for the relief of symptoms will be associated with a knowledge of symptoms, and of the causes of symptoms, as well as of the general knowledge of the structure and functions, of the organs in which these symptoms arise, and of the application of other means to their relief.

In deciding whether it would be better that the body of workers engaged in the practice of different branches of the healing art should be divided among separate professional bodies, or if it would be better to have them in the specialized groups of a single profession, with common educational requirements, professional associations and ideals, the precedent of dentistry will have an important influence. It is generally admitted by the leaders of professional thought among the dentists, and by those who have given attention to the organization of the medical profession, that the separation between

medicine and dentistry is to-day too wide for the best interests of either profession, or of the general public. Physicians should know more of dental pathology; dentists should know more of medicine. Dental organizations are endeavoring to raise the educational requirements for their profession more nearly to those of the medical profession. The recognition of dentistry as a specialty of medicine in our national medical organizations, especially in the Section on Stomatology of the American Medical Association, seems to indicate that the need and advisability of a profession of dentistry, as a separate profession apart from medicine, is by no means established.

It cannot be denied that dentistry as a separate profession has shown a remarkable development, and has accomplished great results in the prevention and cure of disease and the relief of suffering. It is better to have dentistry as a separate profession than not to have it at all. And to achieve its present development in the period in which it has developed, it may have been necessary that it should free itself from the trammels that might have been placed upon it by the leaders in the medical profession, who were not sufficiently informed or interested with regard to its needs to render it any valuable assistance.

But in this respect the case of ophthalmology is quite a different one. The development of ophthalmology has been somewhat hindered by the professor who insisted that he could teach all it was necessary to know of diseases of the eye in two of his surgical lectures; and by the men who, as students, listened to such inadequate presentation of the subject, and who now as leaders and seniors in the medical profession fail to appreciate either the extent or the practical value of ophthalmic science. But even in the particular branch of optometry development has been wholly within the medical profession, from Helmholtz and Donders to George T. Stevens and George M. Gould, the advances in optometry, and even the popularizing of it have been the work of men within the medical profession.

The optical journals to-day mix their articles on lens-grinding, frame-fitting, window-dressing, and newspaper advertising with quotations of all articles written by members of the medical profession bearing on optometry. The medical journals are still the chief source of this part of their literature, which is supplemented by articles written by men of medical education who find their chief sources for practice and revenue among the optometrists. Only since they started out to convince the legislatures that optometry was physics and not physic, have these journals begun to call on professors of physics for statements of those laws and facts of optics which have an established place in the annals of mathematical science alongside the propositions of Euclid. The books which are advertised to the optometrist and which he is advised to study have either been written by members of the medical profession, or paraphrased from standard works by the older authorities on ophthalmology. This specialty, which has arisen within the lines of medical practice, cannot fairly be compared with dentistry of outside origin.

In another aspect of practical importance optometry differs from dentistry. The dentist can find full employment and an adequate income in the service of a comparatively few people. As one of them has put it, he has thirty-two patients in each mouth. Few people who take care of themselves can go more than a year without spending some time in the dentist's chair. A dentist may have plenty of work though his reputation reaches but a very few hundred people. On the other hand, the oculist may have loyal patients, and render them every service they need, and yet several years may elapse between their visits. If his work is confined strictly to the specialty of ophthalmology, he will be kept busy, and command a fair income, only when he is known by reputation to thousands. Deprive the oculist of the opportunity of becoming known through the recommendation of those who are practicing other branches of medicine, and it would be difficult for him to achieve a full practice without resorting to the methods of modern newspaper advertising. Separate ophthalmology from the other branches of medicine, and the self-praising newspaper advertiser would be placed at a distinct advantage.

But the important reason that ophthalmology should remain a recognized branch of general medicine is that the eye has most intimate relations with other important organs; and in its structure presents, readily accessible to observation, specimens of the more important general tissues of the whole body. Its lesions are samples of the changes which general morbid processes work elsewhere. They furnish the evidence of changes in other organs of the highest importance in general diagnosis. They are to be successfully combated by general remedies, diet, change of climate, internal medication, vaccine, and serum-therapy, as well as by local measures. The close connection with ophthalmology is as important to both general medicine and surgery as is that connection of each with the other, the ignoring of which, as pointed out by Clifford Allbutt and others, caused the sterile centuries of medical history.

WHAT IS TO BE DONE?

In view of the fact that optometry is a part of medical science and art that will not and cannot be dissociated from the diagnosis and treatment of non-refractive defects and diseases of the eye; in view of the fact that it is very important that those who practice ophthalmology should be trained in general medicine, and should continue within the medical profession in close association with those who practice other branches of the healing art: what should be done with regard to the present agitation for the recognition of optometry as a separate profession?

The attempt to ignore that agitation is folly, but mere opposition, the determination to "stand pat," is almost equally fatuous. If the optometrists are able to convince the public and the legislatures that laws are needed to protect the eyes of the people from the doings of optical fakers, mere opposition to any and every law on the subject places the medical profession in a false and indefensible position. If something is proposed as a measure to protect the public health, it is not for those who claim the right to advise on all such matters merely to oppose, while themselves suggesting nothing. It is more consistent, more public-spirited, and more effective, to endeavor so to modify legislation as to make it supplement and support the laws now enforced with reference to medical practice.

Every optometry law hereafter enacted or amended should be made to draw a sharp distinction between the license to fit glasses, and the license to practice medicine. In limiting the operations of optical fakers, it must not overlook those fakers who desire to use the word "doctor" for the purpose of confusing the public as to the training and fitness of the man who has studied only "physics" and not "physic." The simple insertion of a clause like the following, taken from the bill before the last session

of the Colorado legislature, would rob optometry laws of most of their power for evil.

"Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician, oculist, ophthalmologist, eye-specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

No doubt such a clause would diminish the attractiveness of a license for "optometry"; and in the end might prevent the development of that pseudo-profession of which some optometrists dream. It would strictly confine the advantages of the license to the comparatively few intelligent, well-trained opticians, who wish only to work at the measurement of refractive errors and the fitting of glasses. The existence of such a class will never seriously endanger the public health, or interfere with the normal development of ophthalmology as a medical specialty.

But the most important thing the medical profession has to do is to provide for the adequate teaching of ophthalmology, including optometry, in the medical schools; to meet the needs of the practitioner of other branches of medicine, and to build up a definite class of practitioners especially trained to recognize and treat the defects and disorders of the eye. It is the failure properly to perform this duty toward the public that is responsible for the optometry question, and the larger issue of a division in the medical profession. Ophthalmology can be learned without special schools or systematic courses of teaching. Medicine and surgery were so learned by apprenticeship for hundreds of years. But the apprentice system is gone from medicine, as it is gone from the nechanic arts. As matters stand now, the graduate, after a scanty introduction to ophthalmology in the medical school, is permitted to pick up ophthalmic knowledge and skill here and there, from desultory reading, by study of chance cases, in the unsystematized clinics of postgraduate schools, from the courses of self-constituted teachers, and by a partial return to the apprentice system through assistantship in the eye clinic or private office.

This has made ophthalmologists of apt students, sufficiently conscientious to persist in the effort to obtain knowledge under difficulties. But it has also created a large number of fakers within the profession—men who pose as specialists before colleagues slightly less informed than themselves, and before the still more ignorant general public. This system, which is a lack of system, has not met the legitimate needs of the profession, or the best requirements of the public. The feeling that although a physician's license to practice gives the privilege of ophthalmic practice, it does not guarantee any fitness for such practice, has led the public to be ready to look for ophthalmic advice outside the profession as well as in it.

The establishment of the degree of Doctor of Ophthalmology, and of the course leading to that degree, in the University of Oxford points to a practical way of meeting the need of the profession and the public for some authentic evidence of fitness to practice ophthalmologv. The offering of such a degree, based on requirements of graduation in medicine and evidence of special acquaintance with ophthalmic science and art, by a few of our better American universities would sweep away the false conditions, the lie in medical education, out of which the optometry question has grown. There can be no better time than to-day, and no better place than the Section on Ophthalmology of the American Medical Association for starting a demand on the part of the medical profession for the adequate teaching of ophthalmology in all well-equipped, efficient schools of medicine.

530 Metropolitan Building.

ABSTRACT OF DISCUSSION

At the conclusion of his paper Dr. Jackson offered the following resolutions and moved their adoption:

WHEREAS, A thorough preparation for ophthalmic practice requires the study of certain subjects not demanded of the candidate for the degree of doctor of medicine,

Resolved, That the American Medical Association, through its Section on Ophthalmology and its House of Delegates, expresses the desire that at an early date courses in ophthalmology requiring previous graduation in medicine and one year's work in an accredited ophthalmic hospital and dispensary service shall be established in each medical school possessing the necessary facilities.

Resolved, That the Council on Medical Education is hereby requested to consider the curriculum for such a course.

These resolutions after discussion were unanimously approved by the Section and by the House of Delegates.

DR. W. E. LAMBERT, New York: The passage of the optometry law in New York was due to the indifference of the profession at large, and to certain unfortunate conditions as to representatives of the ophthalmologists in Albany at the time the opposition was made to this law. I happened at the time the law was passed to be chairman of the Academy of Medicine of New York and of the New York Ophthalmological Society, and also on the committee on legislation of the County Medical Society. So that I went to Albany with this committee and endeavored to oppose the passage of this bill, without any success, and the reason for it was that we had no support from the profession at large, and very little even from our colleagues in ophthalmology. I therefore think that one of the first and most important things to do in opposing this thing is to educate our fellow doctors as to the evils and dangers of optometry; that the treating of errors of refraction and ocular diseases should be done by those having a medical education. It is surprising how many medical men in New York City refer their headache cases to the opticians. One optician had a list of 500 physicians who send their patients to him for glasses. A reputable physician in New York took his patient himself to one of these optometrists to have his eyes treated. This patient came under my care subsequently. He had albuminuric retinitis and died in one year. The New York Ophthalmological Society was lukewarm on the subject until recently, when they were stirred up by the action of Columbia University in establishing a course in optometry in their course of extension teaching. This was established without the knowledge of the medical faculty, and in the circular advertising the course they called attention to the "new profession of optometry established by this course in Optometry in Columbia University." The optical journals were full of this. They were advertising themselves as pseudo-ophthalmologists, claiming the privilege of calling themselves doctors when they had a certificate from Columbia. The New York Ophthalmological Society took the matter up. I was a member of the committee from that society, as were Dr. Knapp and Dr. Thompson, and it was brought before the county society. We sent out a circular to the well-known ophthalmologists in the city asking them to send us a list of cases in which serious diseases had been overlooked, but treated by glasses. In reply to this we received a list of fifty or sixty cases of glaucoma, tumors and other diseases. We presented the report to the New York Ophthalmological first and protested against the establishment of this course in Columbia, and were authorized to bring the matter before President Butler. He said he was not familiar with the situation himself and would ask that Professor Egbert be present. Dr. Egbert called on me and tried to persuade me that they were compelled to do this, that pressure had been brought to bear on them in Albany. It was simply to provide a route whereby men could be educated sufficiently to con-

form to the law of the state which had created this class of gentlemen calling themselves optometrists. However, I saw very plainly that he had been converted to the ideas of the optometrists, the chief disciple persuading Egbert that they were right, or other means had been employed, and the thing to do was to take it to President Butler. Dr. Thompson presented the subject to him. The result is that while they have not decided to withdraw the course they have modified it so that it will not be particularly objectionable, withdrawing the word "optometry." It has been a very serious handicap to the opposition.

DR. SHERMAN VOORHEES, Elmira: Last winter I prepared a letter to the profession about my city, some 500 or 600 men. I set out the status of the opticians and what harm this New York law had worked, and also stated to them that many physicians, as Dr. Lambert has said, were sending their patients to the opticians, or optometrists. The replies which I got to that letter were very gratifying. I think it did a great deal of good. I was not aware that the letter would fall into the hands of the committee of the A. M. A., but it did, through Dr. Thorington of the Pennsylvania society. I believe it would be a good plan for the ophthalmologists to call the attention of the physicians personally to the working of this law. We are troubled terribly in our locality with the optometrists. They do a great deal of damage. I think I have operated three times for glaucoma in the past year in cases in which the optometrist told the patient his eyes would be all right and that he could cure him. After he got accustomed to the glasses vision would return. There is one thing that catches the medical profession and the people alike. The optometrists tell the people that if there is anything the matter with their eyes they will send them to the ophthalmologist, but as we know, many diseases of the eyes cause no local manifestations.

DR. W. H. ROBERTS, Pasadena: We are face to face with a real condition and I think as physicians we might call it a diseased condition, and that is this: The untrained physician has no business to refract. The untrained physician has no business to do eye work. I have seen some refracting just as poor, if not poorer, coming out of the offices of untrained physicians, as out of the offices of the optometrists. I am unalterably opposed to their doing this work. But if the medical profession are going to take this work out of the hands of the optometrists and put it into their own hands, where it rightfully belongs, they must raise their own standards. I am heartily in accord, therefore, with this resolution that a graduate degree should be required of all men doing eye work and that nobody in the profession should be permitted to do optical work of any description without having the degree called for in this resolution. If we are going to change this state of affairs we have got to begin with the profession. I do not believe the attempt to alter public opinion or the opinion of legislators is going to help matters. The disease is in the profession itself and if we are going to change this we have got to cure the disease.

DR. F. PARK LEWIS, Buffalo: We might just as well face things as they are. We are never going to get rid of optometry, existing as it does, by simply opposing it. I think if we were to get together the record of the bad work of the untrained doctors it would at least very nearly equal that coming from the optometrists. I believe Dr. Jackson has struck the root of the matter. The legislators assume that we have personal reasons for our opposition, and until we can raise our own standards—limit the practice of ophthalmology to those who are trained in ophthalmology—by the adoption of a degree or some estimate by which there can be assurance that ophthalmologists are qualified, we are going to have optometrists and they are going to be recognized by the states. I do not believe there is any other way but by establishing a differential degree that will give us control of the most important part of ophthalmology—refraction.

DR. J. A. DONOVAN, Butte, Mont.: I have had several letters during the last year asking why our governor endorsed the optometry law in Montana. The state of Montana has a law granting the title, doctor of optometry. It has already been mentioned that the bill was not a compromise, but a trade. The physicians who introduced the bill simply made a trade with the friends of the optometrists that if they would support the amendment to the medical practice act the physicians would support the other bill. We had already been pledged in the legislature to support this bill and we were practically bound to do so. There is one thing about the resolution as it stands. We are already kicking about too many medical schools, and I believe the resolution should be a little more specific on what the qualifications should be. I would be in favor of sending it back to the committee to make the recommendations more specific and more explicit as to qualifications and as to schools. As it stands I am inclined to think there would be a number of schools springing up and that we may not be accomplishing much. With that single exception I am heartily in favor of this resolution.

DR. MELVILLE BLACK, Denver: I want most heartily to second this resolution of Dr. Jackson. I think as far as the objections raised by the last speaker are concerned there will be no trouble. In the first place, any school which is qualified to confer a medical degree would be qualified to take up this postgraduate work. New schools could not spring up at the present time for the reason that it is becoming more and more difficult to obtain qualifications to confer the medical degree. The degree of Doctor of Ophthalmology, we hope, will be conferred in Colorado within the next year by the University of Colorado. We hope to have this course in full operation during the coming summer, so that we will be able to give you more detailed information with regard to it a little later on, but it seems to me the only intelligent way to meet this situation. They are putting it right straight up to us and we must meet it. Otherwise we are not capable of showing wherein the medical man is better able to do these things than the optician.

DR. M. W. WARD, Woodland, Cal.: The state of California is one of the oldest states that has worn the yoke of optometry, and more than that, an ophthalmologist sat in our governor's chair and signed that bill. Dr. Pardee, one of our members, sat in the governor's chair and signed the bill that makes this kind of legislation in California the oldest in the United States. That shows about how much interest the ophthalmologists in the state of California have in this question. A few years after that the American Medical Association took this up and had committees appointed in the different states to have something done to arouse the ophthalmologists along this line. I received a communication that Dr. Ellis and myself were appointed on the committee in this state. We chose Dr. Ferguson as the representative in the legislature to do this work. He was not an ophthalmologist, but he was an effective man before the legislature. But nothing was done. This law was passed and we have been living under it about six years. The optometrists call themselves doctors and the laity call them doctors. They are crowded out after an education of about four weeks, while we have to take four to seven years, but we are all before the public in the same light. As I say, California has worn this yoke as long as any state in the Union for the simple reason that we will not do anything and we look to the other states to arouse a sentiment on this subject and see that ophthalmology means something beside fitting eyes with glasses.

DR. H. S. MILES, Bridgeport, Conn.: We were greatly aided in our state by Dr. Bossidy of the committee on optometry and if there are states that have not laws I would advise the assistance of Dr. Bossidy. A great many ophthalmologists sell glasses. This should not be. It is no part of the physician's work. I think if we do it we lose somewhat the respect of the patient, the optician and ourselves.

DR. HIRAM WOODS, Baltimore: Dr. Black says that it will not be long before they will be ready in Colorado to confer the degree of Doctor of Ophthalmology. That is exactly the degree a number of these quacks are disporting themselves with in the East, and they buy a diploma from various schools for $25 after a six weeks' course. Doctor of Ophthalmology is the term they use; I have seen it in print. I opposed one of them in the legislature last year. We had a close call in Maryland a year ago. A doctor from Baltimore, a professor

of obstetrics, was approached by the opticians and convinced that this thing was an advance in education. He introduced the bill and the night after its introduction he walked into the University Club, where four or five oculists were discussing it. They convinced him of the iniquity of it and the following morning he presented the amusing spectacle of opposing his own bill and of trying during the rest of the session to defeat it. Then the opticians sent out cards all over the state asking physicians whether they endorsed this bill to set up a standard of education for opticians. They got from 500 to 600 replies from physicians saying they did endorse it. A lot of these, of course, found they were in the wrong, and others asked what they should do about it, and it brought out some opposition. During the hearings when we were trying to convince the committee of the legislature that spectacle fitting was a part of medicine, one question was asked by a committeeman of an optician: "Do you know how to fit glasses?" The optician said, "We are the specialists to whom these things can be referred by the general practitioner." On this statement it was reported favorably and it passed the house because it had medical endorsement. It passed the senate because certain politicians traded it for something else, and afterward it was vetoed, largely through the personal influence and work of Dr. William H. Welch, who took the matter up and persuaded the governor of its wrongfulness. In Maryland the State Medical Society has taken it up, and if there is any future fight on the subject it will be done through the medical organizations.

This brings up one question: If there could be written by such men as Edward Jackson, Dr. Thompson and others a clear and concise, brief paper which would appeal to the laity, to the average legislator, presenting in a way that a layman could understand the fact that ophthalmology is a part of medicine, and that spectacle fitting is a part of ophthalmology, with reference to the general health, it would go a long way toward helping the situation. The average legislator is too busy to read large reports. About four pages issued by a special committee of this Section that would appeal to the comprehension of a layman would go a long ways. They do not want to encourage quackery. They simply do not know. We are wanting in the kind of literature that will appeal to the men we are dealing with. That was the difficulty we were laboring under in Maryland last year. I do not know where such literature exists, but I do believe it would be an enormous help to us in our future fights.

DR. S. L. LEDBETTER, Birmingham: Alabama passed a bill providing for an optometry board but the governor sat down on it. He said optometry, as he conceived it, was a mere matter of fitting glasses and was not a profession. Now, the way we propose to get at that in Alabama, to prevent the further spread of this infection, is to limit and describe the things that belong to medicine and then enact laws regulating the practice of medicine, so that anything that impinges on these lines will be an infringement of the practice of medicine. Anything that would take up the study of anatomy and physiology, as the optometrists propose to do, would be an infringement on the study of medicine, and by making a medical law which would include these subjects it would prevent them from putting these features into their bills. As I conceive it the only way we can shut them off is to include in medicine the things the optometrists want to take up.

DR. J. H. MCLEOD, Santa Rosa, Cal.: I cannot see how we are going to be benefited by extending an evil that already exists by passing it on and putting it into the hands of every general practitioner. According to the view of the member who introduced the resolution you are going to empower every man who practices medicine by a diploma to go forth and do the very thing the optometrists are doing. I believe if the same energy were expended in educating the general practitioner to send patients to the proper source, and if the general public were educated to go to the proper source, you would do more good. It means an extension of the present evil. The general practitioner has no time to practice ophthalmology and will not study the subject. With a little information he will attempt to do a great deal. Educated people are not going to the optometrists as they formerly did, and they can be educated to go to the oculist instead of to the optician.

DR. EDWARD JACKSON, Denver: I should like to ask the last speaker what privilege he or I, or anybody else in this Section, has that is not in the hands of every practitioner of medicine as to practice before the law or before the people. The idea here is to create a distinct class, and if all do not belong to that distinct class of ophthalmologists, distinguished by a special education, at least enough will belong to that class to bring it home to the general practitioner of medicine that it is to this class that his patients should be referred. I can conceive of no better educational work in the general profession than this of establishing a special course. Bear in mind with reference to this special course that is proposed that it is based on the complete medical course. It is a postgraduate course, including not less than one year—not six weeks or three months or six months—in some postgraduate school. It contemplates coming before university examiners and passing a special examination; university examiners who examine for the other postgraduate degrees in the university, sustaining a very definite standard. For instance, in the University of Colorado we propose to grant the degree of Doctor of Ophthalmology, to make it a genuine university degree, and when this has been done it will not be taken up by any man who chooses to have that distinction.

I want to commend the clause in my paper in the direction of Dr. Ledbetter's suggestion. When it was announced in the papers that the compromise optometry bill had been introduced into the Colorado legislature some of the men here very quickly had letters from Dr. Thorington, Dr. Bossidy and others in the East asking about this compromise bill, and we replied to them and gave them our view of it. It was taken up by the optical journals all over the country. The opticians in Colorado had formed a national optical society and from that body a committee was appointed to stop that bill. They did stop the bill. It was introduced as their bill at their request by the health officer of Denver. This is why they stopped it:

> "Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician oculist, ophthalmologist, eye-specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

That is what stopped that bill. The optometrists pulled it off very quickly, and if such a clause was introduced into every bill, or such an amendment was insisted on by every ophthalmologist to be put into every bill or into existing optometry bills, a clause which is perfectly legitimate, entirely in the interests of honesty, not against the opticians or the optometrists, but in the interests of simple honesty, making it apply to those to whom it should apply, then not an optometry bill in the country would do a bit of harm.

With reference to the resolutions, they are not as full as they might be made, and yet they should be brief. The year's work is to be done in an accredited ophthalmic hospital before a man can come up for this examination or before he can get any credit for special instruction in ophthalmology. And as to the final resolution, "Resolved, that the Council on Medical Education is hereby requested to consider the curriculum for such a course"— this is the psychological moment to consider this. The president of the American Medical Association recommended a fifth year; as he put it, an internship in a hospital for one year. The Council on Medical Education in their report to the House of Delegates recommended that the fifth year be added on after the completion of the present course, whether the degree should be given at the end of the four years or whether it should be deferred until the end of the fifth year being a matter to be determined. This very disposition on the part of medical educators to raise the standard should be taken advantage of and here is a way for us to raise the standard of things with reference to ophthalmology, and that is the thing we have in mind to do.

SEROUS LABYRINTHITIS

REASONS FOR RECOGNITION: DIFFERENTIAL DIAGNOSIS: CONTRA-INDICATIONS AGAINST LABYRINTH OPERATION: PROGNOSIS *

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REASONS FOR RECOGNITION

Serous labyrinthitis should be recognized as one of the inflammatory diseases of the labyrinth, which it is, rather than a stage of diffuse suppurative labyrinthitis, which it is not. It is true that serous labyrinthitis is etiologically dependent on a neighboring inflammatory process and may, from this point of view, be regarded much as is a collateral edema or effusion into a joint or visceral cavity. Serous labyrinthitis should be given a place of first importance because of its close resemblance to diffuse suppurative labyrinthitis, which is destructive and very dangerous, while the serous form is not. Serous labyrinthitis subsides without damage; the suppurative does not. The suppurative may make the labyrinth operation necessary; the serous does not. In true serous labyrinthitis the fluid is sterile. That it can become infected, no one denies, but this is after the suppurative middle-ear process has progressed to the point of communication with the membranous labyrinth. When we think of the almost simultaneous involvement of the middle ear and the labyrinth in panotitis, it is difficult to conceive of serous labyrinthitis having been one stage of the infection.

That hyperemia and serous labyrinthitis are not stages of the suppurative is apparent because the succession may not follow. The serous appears without the hyperemic; the suppurative without the serous. An active hyperemia is regarded as a defensive process, not a destructive one. While it is true that these phenomena do sometimes follow in the order named, it is not true that they must. That is, it is not true that we must have an active hyperemia or increase of the amount of arterial blood brought to the part in a given time, preceding serous labyrinthitis, and the latter in turn preceding suppurative labyrinthitis.

We have but to read Hunter's experiments in regard to the temperature of inflamed parts, the opposition to his conclusions by Semon and Weber; Zimmerman's theory, and finally, Jacobson's most thorough and scientific investigation, to come to the conclusion that such a view is not correct.

Bezold's experiments with the manometer on fresh temporal bones demonstrate that prolonged intralabyrinthine pressure is impossible in the healthy labyrinth, because the pressure causes escape of fluid through the cochlear and vestibular aqueducts.

Serous effusion presupposes, first, some hindrance to the normal exit of blood carried to the labyrinth; second, an edema of the membranous labyrinth; third, effusion because there is no obstruction to the incoming arterial blood except the capillary engorgement; fourth, obstruction to the outflow of labyrinthine fluid. The walls of the capillaries are not strong enough to resist the normal arterial tension with obstruction in front, and in consequence they leak. If the edema extends to the aqueducts, this swelling, together with the accumulation of fibrin, which Herzog says causes the labyrinth to become a closed cavity, prevents the outflow of the fluid.

In hyperemia there is an excess of both arterial and venous blood, while in effusions there is an excess of venous or capillary blood, because of obstruction to the return flow. A real anemia of the part may occur in serous labyrinthitis because of the increased pressure caused by the effusion. Herzog thinks that it is the increased intralabyrinthine pressure which interferes with the function of the organs of Corti and equilibrium.

Hyperemia is a transient irritant to the static labyrinth. This is observed in the periodic attacks in circumscribed labyrinthitis. In certain cases there are attacks of vertigo, nausea and vomiting, and nystagmus to the diseased side, accompanied by tinnitus, with increase of deafness; in other cases vertigo without nausea and vomiting, or vertigo and nausea without vomiting; nystagmus to diseased side, and more deafness with or without tinnitus. These attacks are, to my mind, caused by simple hyperemia. The best evidence is their briefness and the total recovery of the former status.

DIFFERENTIAL DIAGNOSIS

The affections of the labyrinth which are most apt to cause confusion and false diagnosis are diffuse hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth.

The symptoms which are common to them all are vertigo, nausea and vomiting, nystagmus, disturbances of equilibrium and deafness. In the first two deafness is partial; in the latter two it is complete. In the first three there is always an otitis media and they are usually unilateral. In the last otitis media may or may not be present. When present, it is only coincidental. The hemorrhage is usually bilateral. It will readily be seen that to find that a patient suffering from acute or chronic suppurative otitis media is deaf to conversational speech, to the watch on contact and to a few forks; has nystagmus, vertigo, nausea and vomiting, and disturbance of equilibrium, is not enough to warrant the diagnosis of a labyrinthitis requiring operation. In addition to the above-named diseases, these symptoms are present with slight modifications, in perilabyrinthitis, multiple circumscribed hemorrhages of the labyrinth, labyrinthine anemia, meningitis of the posterior fossa, cerebellar abscess and acoustic tumor; present but transient in circumscribed labyrinthitis. It will serve no purpose to go deeper into the consideration of the last group of diseases. They are mentioned only to call attention to them. Their differential symptoms are sufficiently marked to set them apart.

To differentiate clearly between hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth, the following must be carefully considered: history, mode of onset of attack, initial or early symptoms of attack, direction plane and intensity of nystagmus, responsiveness of vestibular apparatus to caloric, turning and galvanic tests, reactionary body movements, direction of seeming motion of surrounding objects, influence of the position of the body on the severity of the symptoms, presence or absence of subjective noises and the course of the disease.

To facilitate this study I have prepared the accompanying table.

The condition which must be accepted as serous labyrinthitis occurs most frequently as a complication of acute suppurative otitis media, and acute exacerbations of chronic suppurative otitis media, especially, in the latter, of relatively short standing. In old cases of chronic suppurative otitis media the pneumatic cellular

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bone frequently surrounding the capsule of the labyrinth is gradually changed into sclerotic bone, which forms a barrier to the extension of acute exacerbations into this area, and, of course, renders serous labyrinthitis much less probable, but not at all impossible. It must be remembered that the lateral wall of the labyrinth capsule is much less cellular than that portion communicating with the mastoid process, and that some part of it is by far the most frequently attacked portion in chronic middle-ear suppuration.

Shambaugh has demonstrated that communication exists between the blood-vessels of the bony and membranous labyrinth. So long as the cellular construction surrounding the bony capsule is unchanged, these vessels are more liable to be attacked or influenced by an inflammatory process within the cells, which in turn gives rise to either hyperemic or serous labyrinthitis.

Diffuse hemorrhage and diffuse suppurative labyrinthitis destroy both the static and acoustic labyrinth completely and quickly. Minute multiple hemorrhages, serous and hyperemic labyrinthitis only partly, or temporarily, impair the labyrinth. Anemia of the labyrinth changes its tonus for a more or less short period, unless due to permanent extralabyrinthine lesion or new growth, which lessens the blood-supply.

When, on the other hand, there exists chronic suppurative otitis media, with a history of attacks of vertigo coming on while arising from bed, leaning forward, lifting, straining, etc., or without external cause, and lasting from a few minutes to some hours, and the above group of symptoms suddenly develop, we can safely say that the patient has had a circumscribed labyrinthitis which has become diffuse suppurative. Here the history of attacks of vertigo, and perhaps, in addition, the fistula symptom, constitute the differential points. This disease is almost always unilateral.

When, in the course of acute suppurative otitis media or acute exacerbation of the chronic, all of the above group of symptoms, except total deafness, present themselves, the patient has serous or hyperemic labyrinthitis. Differentiation is desirable, though the main point is to determine or exclude the presence of diffuse suppurative labyrinthitis or diffuse hemorrhage into the labyrinth, from both the surgical and prognostic standpoints.

This paper is essentially a plea for accurate clinical diagnosis and prognosis as they govern the surgical question, which is grave. We may check or repair the ravages of disease, but who will correct our errors?

In determining total deafness, it is best to use the whole series of forks and to exclude the good ear by Barany's noise apparatus or some modification of it. If any hearing exists, the Rinné is positive, and Schwabach shortened in both serous and hyperemic labyrinthitis. The Weber, while a somewhat doubtful sign, is to the diseased side in the latter, as pointed out by Neumann, if the hyperemia is due to perilabyrinthitis.

An analysis of the table herewith presented shows graphically both the likeness and the unlikeness of the four diseases, the initial symptoms of which are the same except in degree. It shows, further, the necessity of close observation of the nystagmus, and points out the great information the tuning-forks furnish us, both at the onset of the disease and during its course. If we are unable to determine by the rapidity of onset or direction of the nystagmus whether we have to deal with diffuse suppurative or serous labyrinthitis, the small a' fork or some other will determine the question by showing in the hyperemic and serous that some hearing remains. Hyperemic and serous labyrinthitis are easily mis-

TABLE OF DIFFERENTIATING CHARACTERISTICS OF HYPEREMIC, SEROUS AND DIFFUSE SUPPURATIVE LABYRINTHITIS, AND DIFFUSE HEMORRHAGE INTO THE LABYRINTH

	Hyperemic Labyrinthitis.	Serous Labyrinthitis.	Diffuse Suppurative Labyrinthitis	Diffuse Hemorrhage into the Labyrinth		
History	Acute suppurative and subacute exacerbations of chronic suppurative otitis media; circumscribed labyrinthitis. Systemic diseases.	Acute or chronic suppurative otitis media. Perilabyrinthitis. Intracranial diseases.	Chronic suppurative otitis media. Acute exacerbations of circumscribed labyrinthitis. Panotitis. Diabetes mellitus.	Violent exercise. Caisson workers.	Excessive heat. Systemic diseases.	Trauma.
Rapidity of onset	Rapid	Rapid	Rapid	Instantaneous.		
Severity of initial symptoms: vertigo, nausea, vomiting, disturbances of equilibrium.	Moderate	Severe	Intense	Intense.		
Early nystagmus	Moderate; to both sides, strongest to diseased side.	Strong to sound side	Strong, to sound side	When unilateral, to sound side; strong. Bilateral disease. To both sides, strong.		
Late nystagmus	Subsiding; to both sides; strongest to diseased side.	Subsiding; to sound side or to both sides; strongest to sound side.	Subsiding; to sound side	Unilateral disease, to sound side. Weak. Bilateral disease, subsides earlier. To both sides weak.		
Reactionary body movements	Slight; staggering toward sound side.	Severe; falls to diseased side.	Intense. Falls to diseased side.	Intense. Unilateral disease, falls to diseased side. Bilateral disease, eyes to left, falls to right; eyes to right, falls to left.		
Direction of seeming movement of surrounding objects.	Both right and left	Right or left	Right or left	Unilateral disease, right or left. Bilateral disease may change direction with eyes to right or left.		
Influence of position of the body on severity of symptoms.	Increased in recumbent	Decreased when lying on the sound side. Increased when lying on the diseased side.	Decreased when lying on the sound side. Increased when lying on the diseased side.	Unilateral disease, decreased when lying on sound side; increased on the other. Bilateral disease, no influence.		
Vestibular reaction	Increased	Early; negative. Later responds to caloric test.	Negative	Negative.		
Early status of hearing	Much diminished	Greatly diminished	Negative	Negative.		
Late status of hearing	Almost spontaneous improvement.	Gradual improvement	Negative	Negative.		
Subjective noises	Present	Present only when improving.	None	None.		

taken one for the other, as are serous and suppurative, and in less degree of probability the diffuse hemorrhagic. The likeness between the serous and suppurative is just the point for the greatest need of a word of caution. It will be seen that the symptoms up to the consideration of early status of hearing differ only in degree in the first few days. As the disease progresses (and it must be allowed to progress in case of doubt), the differences are greater. The serous grows better in many respects, showing return of function, while at best the suppurative grows better only in the sense of subsidence of symptoms. It may become markedly worse within four days, signs of cerebral irritation appearing. These settle the question of doubt.

CONTRA-INDICATIONS

Serous and hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth positively contra-indicate the labyrinth operation, as there is nothing to be gained, and an otherwise sterile cavity is exposed to infection, and the life of the patient is needlessly endangered through extension of the infection to the cranial cavity.

On the other hand, diffuse suppurative labyrinthitis is more dangerous to the life of the patient without operation, especially if caused by a capsule coccus, than when ably handled surgically, because of the free communication of the labyrinth with the cranial cavity through the aqueductus cochleæ, the aqueductus vestibuli and the porus acusticus internus, etc. The saccus endolymphaticus, which is the terminal enlargement of the aqueductus cochleæ, lies between two layers of the dura on the posterior wall of the pyramid, and communicates directly with the lymphatic system of the dura. These facts cause meningitis of the posterior fossa and cerebellar abscess to be much feared. The statistics of Politzer's clinic from 1904 to the fall of 1907 show that it is better not to operate than to partly drain the labyrinth. All of the canals and the cochlea should be opened. For this purpose there is no better operation than Neumann's. The only modification I would suggest is the use of a hemispherical bur to open the three canals at the same time just behind the prominence. This, by the way, is the only excuse I can find for the use of this instrument in the mastoid region.

It is my belief that hyperemic and serous labyrinthitis occur oftener than is generally believed, and that they are operated on when they should not be, thus giving rise to the often-heard statement that it is better not to interfere. This is certainly true when they have been mistaken for suppurative labyrinthitis, and I repeat that the utmost precaution must be practiced; but when a positive diagnosis, according to my table, has been made of diffuse suppurative labyrinthitis, and especially when symptoms of cerebral irritation develop, I cannot lend my sanction to this view. Be timid when there is doubt. Be bold when there is none. It sometimes requires as much courage to wait when one is almost convinced as to operate. Too much haste will bring this work and the worker into disrepute. Operation in case of diffuse hemorrhage is totally out of the question.

SUMMARY

The differential diagnosis must be made under circumstances which can cause more than one of the four diseases under consideration; therefore, little has been said of systemic conditions as causative factors.

I have shown that hyperemic and serous labyrinthitis should be recognized as independent diseases, and not stages of diffuse suppurative labyrinthitis, first, because the succession does not of necessity follow; second, because neither need be preceded by another; third, that the hyperemic and serous tend to recovery without interference, while diffuse suppurative labyrinthitis and diffuse hemorrhage into the labyrinth are destructive. As prognosis is so important because it governs the surgical question, differential diagnosis is doubly essential.

Nystagmus, vertigo, nausea, vomiting, disturbances of equilibrium and deafness are common to them all, and are their initial symptoms.

Diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis destroy the labyrinth. The others do not. The suppurative may invade the cranial cavity; the others do not. Hyperemic and serous labyrinthitis usually recover completely; the others do not.

Hemorrhage into the labyrinth is most frequently bilateral; the others are not. Unilateral hemorrhage, suppurative and serous labyrinthitis closely resemble each other up to the hearing tests, except in degree. Hyperemic labyrinthitis does not; close observation shows nearly the whole course to be different. The nystagmus of bilateral diffuse hemorrhage resembles that of early hyperemic labyrinthitis, except in degree; in the others it does not.

Suppurative labyrinthitis must often be operated on. The others must not. In doubtful cases the surgeon should wait. In sure cases of diffuse suppurative labyrinthitis, especially with intense initial symptoms and meningeal or other brain symptoms, he should not.

For a working differential diagnosis the reader is referred to the table.

PROGNOSIS

The prognosis of hyperemic and serous labyrinthitis as indicated above is good. Serous labyrinthitis leaves a permanent lesion only when there is a fibrinous exudate which becomes organized. In diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis it is absolutely bad with relation to hearing. The latter disease is bad from all points of view, and should be regarded much as are bad cases of appendicitis.

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ABSTRACT OF DISCUSSION

DR. HUGH FREY, Vienna, Austria: I want to ask Dr. Fletcher how the cases are here stated. One may make up one's mind that cases showing such and such symptoms are cases of hyperemic labyrinthitis, but one cannot prove that those symptoms are pathognomonic of that condition. For instance, I think that the symptoms Dr. Fletcher has in his first column might answer just as well for the cases of edema of the labyrinth, which is really not labyrinthitis, and which is comparatively often present in acute or chronic suppuration. In this list I miss any mention of the temperature. The temperature is most important in diagnosis, and in many cases will enable us to make the diagnosis between the conditions mentioned in the second and third columns. In serous labyrinthitis we may not find any clinical difference from acute suppurative labyrinthitis, except the general symptoms. The functional tests depend on the mechanical changes in the labyrinth, and we are enabled to determine whether a case is serous or suppurative only after the general symptoms develop, among which the temperature is the most important.

Another interesting point is the increased vestibular reaction in the first column. It is a question whether we are able to state in a single case that the vestibular reaction is increased or not. At first we thought it was not possible at all. Now we know we can in some cases tell whether the vestibular or cochlear reaction is increased. The bilateral cochlear test will give results only in cases in which the mediums by which the higher or lower temperature is conducted to the labyrinth are about identical on the two sides. In acute labyrinthitis

that is not the case. Another point is that the hearing is supposed to be greatly diminished in serous labyrinthitis.

DR. A. H. ANDREWS, Chicago: After having done considerable work along this line, it seems to me that one of these conditions merges into another, and we will have great trouble in differentiating clearly one from the other. Indeed, I do not know of its ever having been demonstrated pathologically that there is a separate and distinct hyperemic and a serous labyrinthitis. We only assume that such conditions must exist to explain the symptoms we find. Regarding the temperature I have had some cases of positively demonstrated purulent labyrinthitis without a rise of temperature. I am not ready to accept the statements regarding the importance of differentiating between a suppurative labyrinthitis and the other varieties for the reasons mentioned, that the suppurative cases should always be operated on, but the others never. I agree with the former, but not the latter.

DR. C. F. WELTY, San Francisco: The important question is not the hyperemia, but it is the differentiation between simple labyrinthitis and acute purulent labyrinthitis. The serous labyrinthitis may go on to a suppurative labyrinthitis. Now, if you follow the Vienna school, you will not have so much difficulty in arriving at a proper interpretation of your case. This confuses the issue somewhat. Dr. Fletcher has made a beautiful picture. Such a table makes one feel that one could scarcely make a mistake. But in one instance, you will operate simply because you have fever in a serous labyrinthitis that has deepened, and in another you will not. The cochlear reaction and the hearing are also important. The putting in of Ménière's disease simply obscures the matter, and the hyperemic labyrinthitis also clouds the issue somewhat.

DR. WELLS P. EAGLETON, Newark, N. J.: I think often we operate without sufficient examination. Dr. Fletcher has made an effort to induce us to be more careful in the preliminary examination. The point Dr. Fletcher brings out, as to the loss of hearing, is of the greatest importance. I have seen, in consultation with other pathologists, that the diagnosis may be very difficult. It is important to remember that in suppurative labyrinthitis the patients are totally deaf. If there is the slightest hearing, the case is not one of suppurative labyrinthitis, unless it is a localized form. It is possible to have a little hearing with serous labyrinthitis, but not in general suppurative labyrinthitis.

DR. H. B. GRAHAM, San Francisco: I think the serous and the suppurative cases merge into each other. How do you know there is not serum there? Or, if you have a serous labyrinthitis, how do you know there is no pus there? We know sections have been taken in serous cases and pus has been found. We cannot say with certainty that a case is serous or that it is purulent.

DR. J. R. FLETCHER, Chicago: My paper is a plea for clinical diagnosis. It has been suggested that we may leave out hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth. That is true, but if you notice the difference between the initial symptoms, it is easy to mistake one for the other. As to whether we can come to any practical conclusions, I know that we cannot at the present time. I made dogmatic statements here to call attention to the importance of differentiating between serous and purulent labyrinthitis. I have seen a labyrinth operated on when it was perfectly well, in more than one instance, and that is sufficient to induce us to ask for greater care in the differential diagnosis in these cases. We are teaching our students to operate without this knowledge. Where are they to get it, without a knowledge of serous and hyperemic labyrinthitis? All through the history of medicine we have made clinical diagnoses of presumed conditions before their pathology was worked out. Here are two conditions very much alike—hyperemic and serous labyrinthitis. That there are differences between the cases that go on to recovery, as far as symptoms go, there is no doubt. I have examined a great many cases myself, and in the serous labyrinthitis, which almost completely puts the labyrinth out of working condition, we find some hearing left, on careful examination.

TUBERCULOUS CYCLITIS FOLLOWING NON-PERFORATING INJURY TO THE EYE*

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Surgeon to Illinois Charitable Eye and Ear Infirmary and Ophthalmologist to Augustana Hospital
AND
FRANCIS LANE, A.B., M.D.
Pathologist and Assistant Surgeon to Illinois Charitable Eye and Ear Infirmary
CHICAGO

CLINICAL OBSERVATIONS BY DR. DODD

The following case presented some very interesting features. Two of the most unusual conditions were the rupture of the retina, which was present in the region of the ora serrata as the result of a contusion, and an anterior tuberculous uveitis manifesting itself several months after the injury, with negative results from the diagnostic use of tuberculin.

History.—The patient, T. L., aged 10 years, was first seen by me in March, 1908, and the following history obtained: The family had noticed a spot on the left cornea for about eight weeks, and although the eye at times was inflamed and at other times free from irritation, this spot remained. The child had been struck over the left eye with a baseball about ten months before; the lids became discolored and the eye-ball inflamed. A few months prior to that he had been struck near the eye with a stone, the injury producing severe epistaxis and great swelling and discoloration of the eyelids. He gave an indefinite history of not having seen so well with that eye as with the right, but could not say whether this reduction of sight followed either one of the injuries or not. His general health was good and no recent illness was reported, although his mother said that at about the time the eye trouble began he complained of headache and was drowsy and slept a great deal, even falling asleep when he came home from school at noon. As he complained of no other symptoms of illness, however, little attention was paid to this. He had had the usual diseases of children, also a suppuration of the ears when about two years old.

Family History.—No history was given of any trouble which could be considered tuberculous or syphilitic in any member of the family. The mother had delicate health as the result of a fall which injured her spine, when she was a small child. The patient had one brother older and two sisters younger than himself, and there was a stillbirth occurring about eighteen months previous to his birth.

Examination.—The patient's right eye was perfectly normal, with vision equaling 5/6, but he had not been able to use it in school for some time on account of the sensitiveness of the left eye. With the left eye, he could count fingers at 18 inches. There was some ciliary congestion, which was more marked at the lower part of the eye-ball, and a great deal of photophobia and lacrimation. The cornea had a triangular opacity involving its lower third and extending up to and covering part of the pupil. This was quite dense and the epithelium over this part was stippled as in interstitial keratitis. There were some small opaque spots in the cornea above this, and the pupil was small and did not dilate readily with atropin. The tension was normal, but no view could be had of the fundus on account of the corneal opacity. Atropin and dionin were used in the eye, mercurie inunctions applied, and iodids given internally. Under this treatment the irritation and inflammation of the eye subsided somewhat, and the pupil finally became fully dilated so that examination of the fundus was possible. At the extreme lower part was a whitish mass apparently extending forward to the ciliary body and ending near the meridian of the eye. This was glistening white, nonvascular, and was in front of the retina, no detachment of which could be seen. By the use of the transilluminator I found that light passed through it readily.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Course of Disease.—Judging that the corneal trouble, as well as the condition involving the ciliary body, was tuberculous in origin, I used the ophthalmo-tuberculin test in the right eye, but got no reaction. By the latter part of May the eye was slightly improved, the cornea being less opaque and the sensitiveness to light about gone, but on discontinuing the use of atropin the eye would become irritated.

June 22: The patient went to the hospital for a thorough tuberculin test and, after having his temperature taken for several days, I gave him progressive doses of old tuberculin up to the final dose of 10 mg. His temperature remained normal and at no time was there any reaction, local or general.

July 30: By this time, the eye was much improved; there was less photophobia and the cornea was much clearer.

August 13. The patient came to see me before going away for a vacation. I found the eye quiet with only a slight opacity of the cornea. There was no change to be seen in the whitish exudate, the vitreous was clear, and there was no detachment of the retina, or anything to make one suspect a growing tumor.

October 20: The patient returned to-day, having noticed for two weeks that the sight of this eye was failing. The eye was irritated and would become greatly congested on handling, and the lens was becoming opaque at the lower part. The pupil was fairly well dilated, but the whitish mass could hardly be seen on account of the lenticular opacity. This opacity continued to increase quite rapidly so that by November 9 I could not see into the eye. The iris was pushed forward below apparently as the result of a rupture or dislocation of the lens at its lower part. The eye was greatly irritated. The possibility of an intra-ocular tumor occurred to me at this time, and I requested the family to consult another oculist.

November 12: Dr. Suker was consulted and expressed the opinion that a tumor had caused the rupture of the lens capsule and that enucleation should be done at once.

November 17: I enucleated the eye, following which the patient made a good recovery.

Result of Operation.—The irritation of the right eye which had been so marked, especially toward the latter part of the trouble, making it impossible for the patient to use it for reading or school work, subsided as soon as the left eye was removed. I have seen him from time to time since and he continues in good health and his vision is normal in the right eye.

Dr. Lane has made a thorough examination of the enucleated eye and his report of the pathologic findings forms a part of this paper.

When the patient was first seen by me the clinical appearance of the eye was that of beginning interstitial keratitis. A slight diffuse infiltration in the stroma and some roughness and stippling of the corneal epithelium were present, which prevented the principal pathologic condition of the cornea—the endothelogenous membrane covering the posterior surface below—from being demonstrated clinically.

After the dilatation of the pupil and a partial clearing of the cornea the cyclitic mass became visible, and made me consider the history of traumatism of more significance. Later, when the pathologic examination revealed the rupture of the retina and the exudate at its site, the importance of the traumatism as a cause of the trouble was substantiated.

Rupture of the retina rarely occurs without being associated with rupture of the chorioid. When it occurs alone it may be the result of a chorioidal hemorrhage which detaches the retina and finally breaks through into the vitreous chamber, or it may take place from an indirect blow in the same manner as a chorioidal rupture. When this occurs, the most frequent points are at the macula, or at the ora serrata, as in this case. The earlier exudate or organized hemorrhage, having its source at the site of the retinal rupture, was cicatrized and showed no characteristic tuberculous changes. The later tuberculous exudate was from the ciliary body and iris and was still fresh and in a cellular condition.

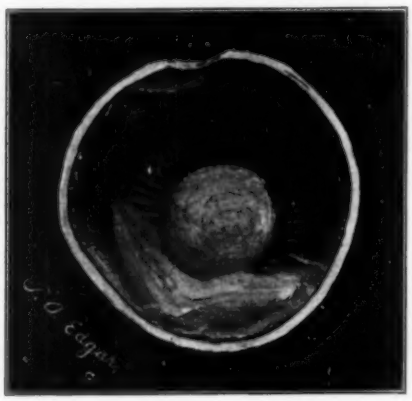

Fig. 1.—Drawing by Dr. T. O. Edgar, of anterior portion of eye, showing mass of exudate.

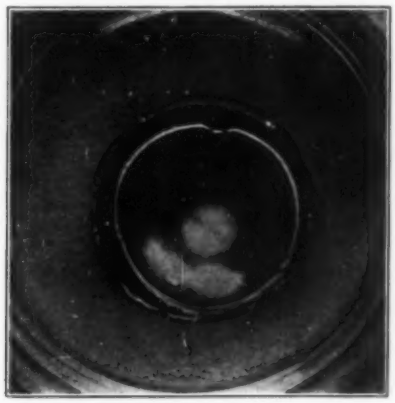

Fig. 2.—Photograph of anterior section of eye.

The long period of time—nine months or more—between the last injury and the time when the inflammation was first noticed is worthy of consideration. Did the infection occur at the time of injury and remain dormant, or did it occur later and become localized at this point of lessened resistance? Either may have happened, for we frequently see cases of tuberculous inflammation which remain quiescent for several months and then suddenly take on new activity due to the lessened resistance of the patient or some local irritation. In one of my patients who had a severe tuberculous sclero-keratitis, healing took place under treatment with tuberculin and the eyes remained well for over two years. On account of working under poor hygienic conditions her general health became affected, she lost weight, and had a recurrence of the same local inflammation for which I had previously treated her. Stock, by his experiments, proved that large tuberculous foci may exist in the ciliary body for a long period without producing any symptoms of cyclitis, and also that tubercle bacilli may be found in the iris months after apparent healing.

The absence of reaction to the tuberculin test is very difficult to explain, as in every case of ocular tuberculosis, in my experience, the reaction was well-marked both locally and generally. Not considering the negative ocular tuberculin test as sufficient, I had a thorough subcutaneous test made in the hospital where the patient's temperature could be taken frequently and the condition of the eye noted. Old tuberculin was given in progressive doses until 10 mg. were given, the largest amount I ever use for the test. No reaction was obtained. After learning the pathologic condition of the enucleated eye I again gave him a thorough tuberculin test, with the same negative result. To eliminate hereditary syphilis I had a Wassermann test made and it also was negative.

Localization of the trouble in one segment of the eye is no diagnostic help in the differentiation between intra-

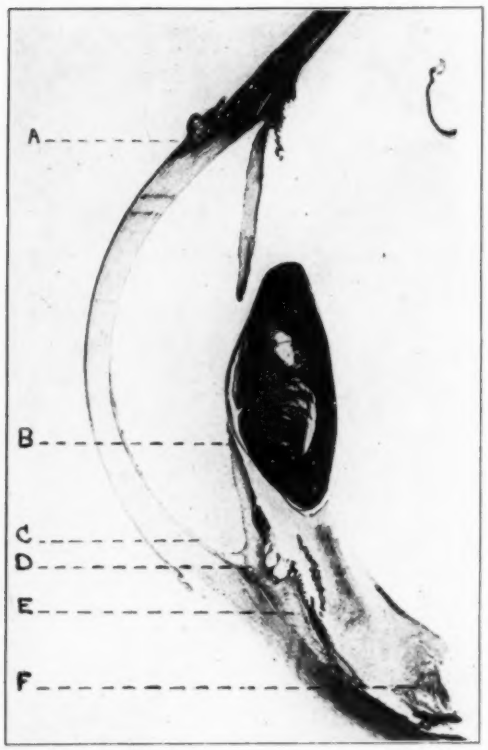

Fig. 3.—Vertical section through the anterior half of the eye, showing the miliary tuberculous iridocyclitis, etc., in the lower portion. (a) Upper limbus region; (b) posterior synechia; (c) endothelogenous cuticular membrane; (d) anterior root synechia; (e) active tuberculous cyclitis; (f) old cicatrized exudate and end of ruptured retina.

ocular tumors and tuberculosis. The whitish mass which was present in this case might have been a non-pigmented sarcoma, although in so young a patient this would have been very unusual. Solitary tubercle of the chorioid, occurring far forward, is usually of far more rapid growth, and would have produced detachment of the retina visible with the ophthalmoscope at an early date. Tuberculous cyclitis is frequently localized in one section of the eye and may remain so for months before other portions of the eye are affected. The negative tuberculin reaction, however, made me discard the diagnosis of tuberculosis in any of its phases, so that when the extension of the process began again, I concluded that it must be some form of ciliary tumor.

PATHOLOGIC REPORT BY DR. LANE

GROSS FINDINGS

Left Eye.—Laboratory No. P. 283. (24x23x23 mm.) There is no evidence of a penetrating wound. The entire cornea is superficially hazy, and deep in the lower quadrant is a triangle of fairly dense uniform opacity. The anterior chamber appears a trifle shallow below. The pupil is horizontally oval and measures 5 mm. in its long axis; a thin gray exudate lies in its lower part, and a 1 to 2 mm. broad spindle-shaped opacity, apparently just behind the lens capsule, runs diagonally from axis 60° to 240° through its center.

When sectioned coronally, the anterior half shows the following: The lens is somewhat opaque and is displaced a trifle downward. On the equator of the lower outer third there lies a dense, glistening white, flat exudate, resting principally on the inner surface of the middle and anterior portions of the corresponding part of the ciliary body. The exudate spreads up along the equator of the lens both temporal and nasalward like two wings, the tips of which reach the level of the horizontal meridian. It rapidly converges posteriorly and continues backward and to the temporal side as a short, 3 mm. thick, round stem; its posterior end is attached to the anterior part of the detached retina 1 to 2 mm. behind the ora. The optic nerve is 8 mm. long. The posterior half of the bulb shows no special changes.

Both halves of the eye were fixed in Zenker's solution, imbedded in celloidin, and sectioned parallel to the plane of the meridian passing through the axis 105°. Four hundred and thirty serial sections were made of the anterior half in order to exclude the possibility of a penetrating wound or the presence of a foreign body, and also with the special object of studying the large exudate and the adjacent structures. Eighty-six sections, every fifth one, were stained with hemalaun and eosin, forty-one with carbol-fuchsin, a few by the van Gieson and Mallory methods, and some stained for iron.

MICROSCOPIC FINDINGS

Unless otherwise stated, the following description has reference to the lower half of the bulb, inasmuch as the most important anatomic changes are found here.

A foreign body is not present. Three distinct, quite superficial, spindle-shaped nodules of round cells are found in front of the perforating vessels in the superficial layers of the sclera (10 to 12, 65 to 70, and 76 to 80)[2] (Scleritis). Files of cells run off from the anterior ciliary vessels and the marginal loops. A few scattered wandering cells are seen, especially between the basement cells of the corneal epithelium, and, moreover, they are increased throughout the interlamellar spaces of the corneal stroma (5).

Near the end of Descemet's membrane the posterior lamellæ are slightly spaced apart and many cells with deeply staining oblong nuclei lie in the narrow fissures (1 and 56). A cellular membrane is found on the posterior surface of the cornea and is worthy of detailed description. It begins at the center, spreads downward and gradually increases in thickness until its superimposed layers reach a maximum of from 12 to 15 strata just above the periphery of Descemet's membrane (1). In some sections this deposit is arranged in particularly definite lamellæ (1, 56 and 57 v. G.), whereas in other sections (10 and 20) lamellation is less regular; here more cells abound, some have large faint-staining oblong nuclei, others have smaller, deeper staining, curved and irregular-shaped nuclei (endothelogenous cuticular deposit). Between Descemet's membrane and this new-formed tissue an interrupted layer of compressed endothelial cells is found. This same arrangement of cells and tissue prevails between the new lamellæ to a lesser extent (1 and 56).

In Section 20, alternating areas are present where the endothelial cells are irregularly grouped, and absent between

2. Arabic numerals in parentheses refer to the serial section number.

the new tissue and Descemet's membrane (endothelial degeneration). Between the layers of the deposit a few scattered pigment-bearing cells and free pigment granules can be made out (3) (old precipitates). The cuticular deposit extends a short distance beyond the peripheral margin of Descemet's membrane, overlapping the anterior end of the inner lamellæ of the corneo-scleral trabeculæ (1). Aggregations of leukocytes and plasma cells laden and interspersed with pigment lie in a delicate network of fine fibrin on the posterior surface of the deposit (3) (fresh precipitate).

In Section 35 these precipitates consist almost exclusively of plasma cells. Many lymphocytes and wandering cells of various types are seen in both the angle of the anterior chamber and its bordering walls (1 and 4). In Section 10 an unusual number of eosinophils are present in this location. The canal of Schlemm is completely hidden (6) (partial impermeability of the infiltration angle). Delicate fibrinous strands, in the meshes of which are leukocytes and plasma cells, stretch across the angle (3 and 4) and pull the thickened iris root forward until it is actually approximated to the cuticular deposit 1/3 mm. above the end of Descemet's membrane (local peripheral anterior synechia). The canal of Schlemm is here completely blocked. The anterior chamber is free from exudate except at the angle; yet a few plasma cells and leukocytes lie on the anterior surface of the iris, and not a single section shows open stomata of the crypts (cellular exudate on iris surface). The iris stroma, particularly its posterior portion, is thickened by a diffuse infiltration of leukocytes, plasma and mast cells and a few scattered hyaline globules (Russel's bodies) (4). The chromatophores have mostly lost their graceful branches and have become transformed into shapeless conglomerations of pigment. Along with this diffuse infiltration are found many large, fairly sharply circumscribed nodular aggregations of lymphocytes. Several of these nodules reach a size equal to the thickness of the iris and can easily be detected macroscopically (32, 61 and 72) (nodular iritis). Epithelioid cells are present in the center of a few of these nodules (33 and 34), but in none of them can giant cells be found. Vessels are seen inside the nodules in a few sections (32 and 60), yet for the most part they lie at the periphery or entirely outside the nodules. Time was not taken to determine the exact number of nodules present, but their distribution, frequency and characteristics, were closely studied. Fifty-one, or two-thirds of a total of 86 sections studied, show that each section passes through from one to four nodules. In all, 94 cross-sections of such nodules can be counted.

From the observations made one can conclude that (1) the greater number of nodules are located in the lower half of the iris; that (2) they are situated principally in the vicinity of the circulus arteriosus minor; and that (3) they are poor in vessels. These three findings agree with those described in typical miliary tubercles of the iris, and indeed the condition coincides with it entirely except for the fact that giant cells could not be found in a single section.

Attached to the lower pupillary border of the iris is a moderately cell-rich inflammatory exudate. It extends upward for a short distance and tapers off in the pupillary region of the anterior lens capsule (pupillary membrane) and below and behind the pupillary border of the iris and binds the tunic to the lens capsule. This latter portion of the exudate contains a few clumps of pigment (3 and 57). It can be traced downward as a thin pellicle along the posterior surface of the pigment epithelium as far as the ciliary zone of the iris (3) where it suddenly becomes one-half the thickness of the iris (5). The succeeding twelve sections show that the exudate extends, indeed, almost to the ciliary body, and that markedly proliferated pigment epithelium separates it from the posterior surface of the iris; also that it drags narrow bands of pigment toward it and that the exudate fuses with some of the displaced ciliary processes (12 and 13) (posterior synechia).

The traction set up by this exudate membrane pulls the pupillary border of the iris backward and downward so that the sphincter is bent on itself in the shape of a hook (3). A thin stratum of connective tissue separates the two somewhat broken-down pigment layers near the outer edge of the pupil (59). The intima of the vessels is often surrounded by small round cells and plasma cells and occasionally a lumen is obliterated (71). The same diffuse cellular infiltration described in the iris prevails in the ciliary body and thickens it proportionately. The ciliary processes are most extensively and very densely infiltrated. Some of them are swollen and elongated (8 and 29), others are pushed forward and grown fast to the posterior surface of the iris (26). Still others stretch upward as far as the equator of the lens and lie on the anterior fibers of the zonula (4). In the vascular layer of both the corona (24 to 29) and the orbiculus (36 to 38) a number of round-cell nodules are present. Just behind the corona the pigment epithelium is split and separated from the ciliary epithelium by cicatrical tissue (11 and 27). The ciliary muscle itself has to a large extent escaped infiltration (56). A few sections, particularly No. 6, show the radial bundles widely spaced apart by the same kind of cells that infiltrate the vascular layer, while in others nodules of round cells with

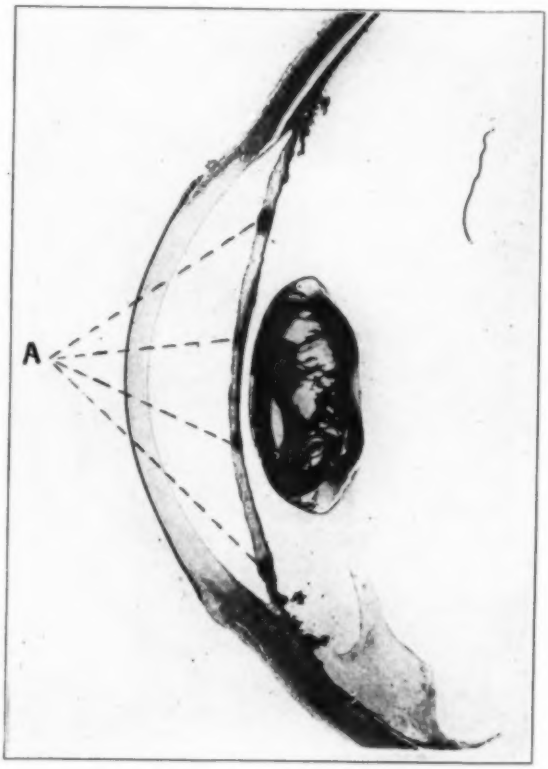

Fig. 4.—Miliary iris tubercles (a).

numerous eosinophils are found in the immediate neighborhood (24). A diffuse infiltration is present in the lower quadrant (36). Two typical giant-cell systems with central degeneration lie in the muscle opposite the middle and posterior parts of the corona (36 to 40). The stratum pigmentum is broken through in the same sections.

In all, 41 specimens were stained with carbol-fuchsin and a close search made for tubercle bacilli, but bacilli were found in only one section (40c). Morphologically, the bacilli are a little shorter and possibly a trifle thicker than typical tubercle bacilli. A single bacillus having all the morphologic characteristics of the tubercle bacillus was found in smear made from those sections taken from the giant-cell areas and treated by the alkaline-hypochlorite (antiformin) tissue-dissolving method.

A 2 to 3 mm. thick organized exudate lies on the inner surface of the ciliary body and on that (peripheric)

portion of the retina which is pulled forward as far as the middle of the orbiculus (2) (cyclitic exudate). It extends upward and imbeds the processes and equatorial zone of the lens, and sends fine filaments up behind the posterior lens capsule, fusing it to the anterior limiting layer of the vitreous. A cellular exudate is pouring out through the broken apices of the swollen processes; it takes a centripetal, axial course (15 to 19) (active exudate). This mass has only a moderate number of vessels (4 and 11), is irregularly infiltrated with the same types of cells found in the ciliary body, and, as in the ciliary body, shows areas where nearly all the cells are eosinophils (15 to 17) (less recent exudate).

While some connective tissue network permeates the more cellular portion, the inner and posterior parts of the exudate are by far the richer in a connective tissue which has become more or less laminated (15 and 27 v. G.) (old organized exudate). Here and there pigment is seen (10). In fifteen of the sections giant cells are to be found (15 and 24). The oldest or most posterior part of the exudate, and the connective tissue

Fig. 5.—Vertical section through the posterior half of the eye, showing the tear in the retina and the old organized connective tissue "callus." A, tear in the retina.

which separates the slanting ciliary epithelium from the pigment layer, lie on the inner surface of the back part of the orbiculus, while the more recent cellular exudate is situated opposite the corona. The mass extends for a short distance behind the ora and is attached to the folded and degenerated, severed retina. These facts furnish conclusive evidence that this mass originated from the region of the ora and not from the corona ciliaris. The lens is slightly subluxated downward. The equatorial zone of the lower half is completely enswathed in the cyclitic "callus" of organized exudate (15) (cataracta accreta). A thin delicate film of connective tissue with a few pigment-bearing cells, and some free pigment, covers the lower part of the anterior capsule. The capsule is wrinkled at the lower equator, probably from hardening. A thin fibrous tissue with spindle-shaped nuclei lies behind the capsule and extends over the entire pupillary surface of the body of the lens. This tissue consists of layers of imbricated spindle-shaped cells packed closely together and does not differ essentially in appearance from ordinary connective tissue (57 and 57 v. G.) (anterior capsular cataract). Fragments of broken-up cortex are imbedded in the capsular cataract. Clefts in the lens substance are filled with fluid and globules of Morgagni (55 and 57) (consecutive cataract).

The peripheral part of the chorioid is infiltrated with lymphocytes, leukocytes and plasma cells.

Anatomic Diagnosis.—1. Rupture of the retina following trauma; (2) chronic plastic iridocyclitis limited to lower part and consisting of two stages: (1) An old affection resulting in the formation of cicatricial tissue. (2) A recent affection of the ciliary body which has spread out in all directions, invading the iris and episcleral tissue, evidently along the perforating vessels and characterized by the formation of nodules of round, epithelioid and giant cells with central degeneration—a formation which can be considered miliary tuberculosis.

31 North State Street.

ABSTRACT OF DISCUSSION

DR. B. F. CHURCH, Redlands, Cal.: I have had such results in the treatment of tuberculous keratitis in a patient with tuberculosis by means of injections of guaiacol in 5 to 10 minim doses, that I wish to report it. I think it is a much shorter route than resorting to tuberculin, and is certainly much easier.

DR. JOHN E. WEEKS, New York: There are two or three features in this report which have interested me very much, and which I think can be discussed with benefit. The appearance of the slight exudate, mentioned in the paper just read, is, so far as I have observed, quite characteristic of tuberculous infection. This exudate occurs in cases of tuberculosis of the iris, and in cases also of tuberculosis of the uveal tract further back. It is a very white exudate, fairly limited and not accompanied by hemorrhage or the appearance of vessels in the exudate. When we have tuberculosis of the iris, of course the iris is thickened in addition. These masses of exudate have the appearance sometimes of tufts. There will be perhaps one to three in the pupil when the iris is affected with tuberculosis. I would like to emphasize as forcibly as I can this typical exudate in the interior of the eye. Another point is that there was no reaction after the subcutaneous injection, as I understand it, of 10 mg. of T. O. Was the sample of tuberculin used reliable? I have observed quite a number of cases of intraocular tuberculosis, and I have never failed to get a local reaction by the subcutaneous injection of 3 mg. I have failed in using 1 mg., and in or two cases 2 mg., but 3 mg. has never failed in tuberculosis of the eye, whether of the sclera and cornea alone or of the conjunctiva or in intra-ocular tuberculosis. The Calmette and the von Pirquet tests are, in my opinion, of no consequence unless we are introducing into the circulation or into the system more than 0.5 mg. T. O. With the von Pirquet test by using the old drug undiluted we may introduce into the system 1 mg. or more than 1 mg. of tuberculin that may produce a general reaction, and with the general reaction we may get a local reaction in the eye when tuberculosis is present. The objection is that the reaction in the conjunctiva, or the reaction on the skin with the von Pirquet, is of no particular consequence, as we get the reaction when the tuberculous lesion is in some other part of the body. Unless in connection with these tests we get a local reaction, we cannot say the condition in the eye is tuberculous. So the test that is of value is the local reaction as obtained by the subcutaneous injection of a diagnostic dose of tuberculin. Now 10 mg. of preferred T. O. will often produce a reaction in the normal individual who has not had tuberculosis, and it seems

to me incredible that this preparation of tuberculin was a reliable preparation because of the fact that no reaction whatever was obtained, either general or local, in this case. I may say in regard to another feature of this case, that improvement seemed to follow the introduction of the tuberculin. If I read the report right, after this diagnostic dose was given the eye seemed to improve somewhat. Is that not so?

DR. OSCAR DODD, Chicago: I was giving other treatment and the patient had considerable improvement before.

DR. JOHN E. WEEKS, New York: It seemed to me that the patient, even though no general reaction occurred, showed little improvement after the tuberculin was used and had a relapse of his tuberculous process and became worse afterward. In the treatment of tuberculosis I have had two or three relapses because the tuberculin was discontinued too early, but a resumption of its use brought about recovery. In quite a number of cases—I think about eighteen—the results have been quite satisfactory by the subcutaneous use of tuberculin, using only T. R. for therapeutic purposes. But the ordinary T. O. also possesses marked therapeutic value, as has been demonstrated in a few cases in which I have used it purely.

DR. J. A. DONOVAN, Butte: Dr. Weeks introduced an innovation about the reaction of tuberculin that I thought about in connection with this case. I had a series of cases—in fact, they are under treatment now—of six patients whom I had been treating with one of the local tuberculins. In two of these cases in which I was not getting as much results as I expected I switched to a German preparation. One woman and one man in whom I got practically no reaction at all before, were put in bed sick, with an elevation of temperature. A laboratory man said that tuberculin was not standardized at all and that I should not have done it. I treated one patient in St. Paul some years ago with tuberculin with apparently beneficial results, but in two or three instances I had to go back to guaiacol. I got the suggestion of guaiacol (2 per cent. in glycerin) from Dr. Darius, and in every case I have had that gives immediate reaction, and it is very much more positive, so far as improvement is concerned, than tuberculin.

DR. OSCAR DODD, Chicago: The appearance of the exudate, as mentioned by Dr. Weeks, to me was suggestive of tuberculosis; so much so that I could hardly believe the fact of not getting a reaction. As to the reliability of the tuberculin, it was the preparation used in the hospital which they had obtained results with. I should have made tests with other patients in order to control it. As to the improvement after the use of the tuberculin, the tuberculin test was not given until after the eye was really rather quiet. Under atropin and dionin the eye would quiet down and remain so until I stopped the atropin again. The tuberculin test was not given until the latter part of June, on account of the fact that the patient would not consent to go into a hospital until that time, and the eye made no particular change, so far as I could see, following that. About August 13 the patient went away on a vacation and did not return again until October 20. The eye remained quiet until about two weeks before he returned, when the rapid changes in the lens and eye necessitated removal. Another point which I do not speak of in the paper was the fact of the irritation of the other eye. It was very much irritated, and after the pathologic examination the specimen was carried by Dr. Lane to Professor Salzman, who said at once that the patient must have had irritation of the other eye, a fact that was true throughout the case. He was unable to use his other eye to any extent.

Barbers and Surgery.—The barber of the present day is not expected to do surgical work, although his sign still gives notice that accidents may happen. The bloody pole with its white bandage reminds us of the day when the barber was the surgeon. The family of Poisson decided for him in his youthful days that the work of a notary required greater intelligence than he possessed, and advised him to become a surgeon. It was not until 1745 that the "barberous" work of the surgeon and the surgical work of the barber were, in England, eliminated by law, says F. E. Nipher in *Science*.

PLASTIC SURGERY OF THE EYELIDS, USING THE WOLFFE GRAFT *

F. PHINIZY CALHOUN, A.B., M.D.
ATLANTA, GA.

Plastic surgery has always impressed me as being the height of all surgical skill. For obvious reasons plastic surgery about the face, about the eyelids particularly, not only requires good judgment on the part of the operator, but his technic is put to the severest test.

The operation for the restoration of the lids and of the cul-de-sacs in contracted orbits, in the complete ectropions, especially from burns, and many other conditions, makes the deep cutaneous graft of Wolffe the ideal one to be used in such cases. My experience in twenty-five cases in which this cutaneous graft was applied has been so satisfactory and the method employed is so simple that I present the subject with the hope that it will be of interest. No claim is made to originality in the operation to be described, for my ideas were obtained from observing other operators.

There are two important steps to be remembered: First, the surface to be grafted must be denuded and must have sufficient blood-supply to nourish a healthy graft; second, a graft must be obtained of sufficient size to more than cover the area.

The ideal case is a complete ectropion of the upper or lower lid, and the one I now report, in which the result was most brilliant, was that of a farmer who, eighteen years before the first operation, had fallen into an open fire, burning the left side of his face and forehead. In time there was a complete distortion of that side of the face from the cicatricial contraction, and the ciliary margin of his upper eyelid occupied the position of his eyebrow, which had been destroyed, and the margin of the lower eyelid was pulled well down on the cheek. The conjunctival surfaces of the lids were completely everted and exposed, and from prolonged exposure they had become much thickened, resembling a velvety type of trachoma. The picture he presented was horrible. Fortunately the man had excellent vision, the globe in no way being injured. Two operations, at six months' interval, were required, the upper eyelid being first operated on.

After cleansing the face with ivory soap and water, then irrigating with a normal saline solution, I made a superficial incision above the ciliary margin, then little by little I undermined the whole lid, as one would in an ordinary integument dissection, preserving the muscular structure. This flap of the lid, when folded down over the globe, nearly covers the entire exposed conjunctival surface of the lower lid. Bleeding is of no consequence, but should this be troublesome a small artery clamp applied for a few moments would control the annoying vessel. After this part of the operation is completed, and the operator is sure that the eyelid will remain in place from its own weight, a pad saturated with hot saline solution is applied and gentle pressure made by an assistant, while the graft is obtained from the inner surface of the arm, forearm or thigh. I have never obtained a graft except from the inner arm, and in one case I removed, at intervals, five grafts from the two arms. The left arm is generally prepared, after the usual manner of shaving, cleansing with green soap, bichlorid of mercury and a saline dressing applied some hours before the operation, so that the graft will be as little irritated as possible at

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

the time of the operation. A nurse or an attendant holds the arm out from the body by the hand, and the arm is wrapped with sterile towels.

Some idea should be had as to the size of the place to be covered, and I usually measure it roughly with the handle of my scalpel, then make the graft at least one-third larger, allowing for shrinkage and a loose fit. An oval graft is advisable, as the wound of the arm which is to be subsequently closed leaves only a linear scar. I usually mark off on the skin of the arm with the knife four small lines indicating the size of the graft, then connect them with a superficial incision, and as the graft is removed the incision is deepened, extending down to the fatty layer. A pair of tissue forceps and a Desmarres lid scarifier are the only instruments necessary in this step of the operation.

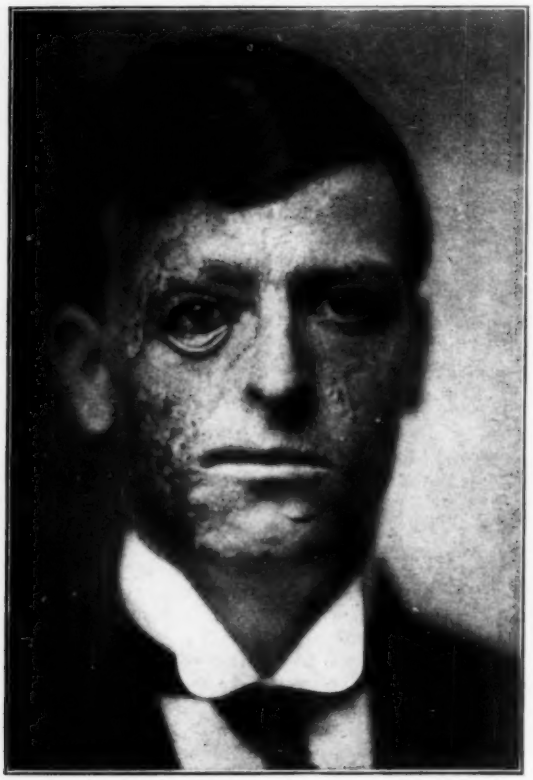

Fig. 1.—Ectropion of upper and lower lids of twenty years' duration, from burn of face.

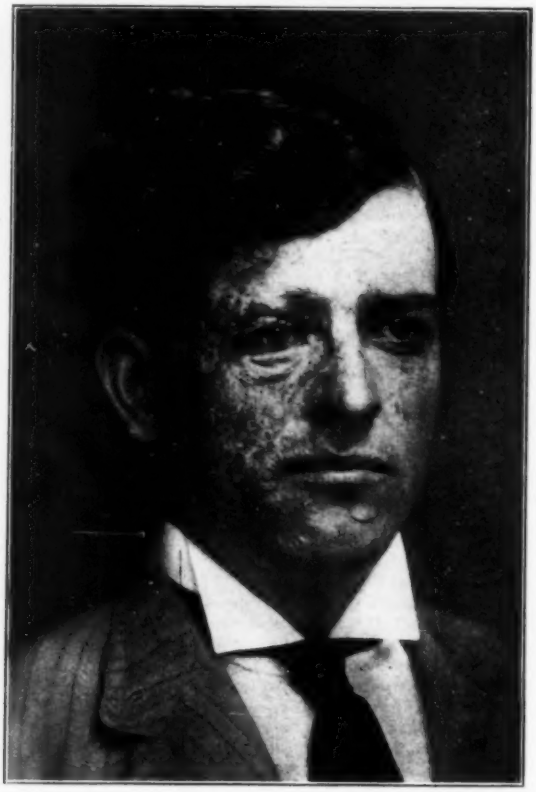

Fig. 2.—Lower lid repaired with a Wolffe graft. Picture taken one year afterward.

The graft should not contain any of the areolar or fatty tissue, and after its removal, with a pair of scissors curved on the flat, the raw surface should be trimmed of all the loose and unnecessary tissue; it is then placed in a towel wet with warm saline solution and is ready to be applied to the raw surface previously made.

The arm wound can be repaired by an assistant, or later by the operator. This operation simply consists in undermining the edges sufficiently to bring them together without tension. Two or three silkworm gut retention sutures are best used, followed by a continuous silk suture of coaptation; a dry dressing is applied and the wound is not disturbed until the fourth day. The nurse should watch for swelling of the hand for several hours after the operation; if present, this would indicate a restricted blood-supply from too tight a bandage or tension of the wound.

The new graft should be applied immediately to the raw surface for its nourishment, but all bleeding of the wound must first be controlled, lest a blood-clot subsequently forming beneath the graft delay healing or form a good nidus for infection. I use a strabismus hook to smooth the graft into place, and it is remarkable how an irregular surface can be beautifully and evenly covered. Small sutures of No. 5 black silk are used to hold the graft in place. They are first placed at four equidistant points, to even the graft, then the space between is filled in with as few as possible to hold the graft steady. If the graft is too large, it can be trimmed after it is in place; but it is better to have a too large, loose fitting graft than a too small, tight one. The subsequent contraction may spoil a beautiful operation.

A dry dressing is applied, made up of several layers of gauze to absorb the secretion, then loose gauze on top. The first dressing should not be made sooner than the fourth day, then the adherent pieces of layer gauze should be moistened in order not to pull apart the wound. The sutures can be removed, or at least a part of them, for I have found that delayed removal may cause a slight infection, which may destroy the graft. Sterile petrolatum should be gently smeared on the wound, and a tight dry gauze dressing applied. At intervals of two or three days the dressings should be changed until the superficial epithelium of the graft commences to slough, then the wound should be cleansed daily. The slough may be frequently trimmed. In about three weeks the

patient can go without a bandage or other protection, but for many months later it is well to have the patient massage the new lid daily with petrolatum, so that it may be kept soft.

In my second case of ectropion of the lower lid there was a slight recurrence two months afterward, but daily massage entirely corrected the condition. The method of restoration of the cul-de-sac by using the Wolffe graft is described in the excellent monograph of Weeks.[1] While the major points of that operation are similar to the method just described, some niceties in technic and the application of sutures and the use of the dental rubber plate for the holding of the graft are more thoroughly explained.

While the operation that I have just described applies best to flat surfaces to be grafted, chiefly ectropions, I have recently used it with success in two nose cases in which the alæ had been destroyed by burns, and in a case of burn in which the upper lip had been pulled high up on the cheek from the scar contraction. The vermilion border was undermined, the scar in part being dissected out and a very loose graft applied. The appearance was much improved.

So far I have not had an infection or a complete failure. The nearest approach to failure occurred in a severe case of ectropion of the lower lid referred to me by Dr. W. P. Nicolson. The patient had had a mole removed from his cheek years ago by the application of some caustic paste, which had caused so much tissue necrosis that most of the soft tissue of the cheek on one side had been destroyed, exposing parts of the upper and lower jaws. Dr. Nicolson restored the cheek by a pedunculated graft removed from the neck, and referred the patient to me to correct the lid deformity. There was little sound surface for the graft, except the deflected ectropic lid, and the slough that followed only delayed epidermization.

672 Peachtree Street.

ABSTRACT OF DISCUSSION

DR. JOHN E. WEEKS, New York: The operation for restoring the lid in ectropion presents a number of important features which may be mentioned, and one is the preparation of the area to be covered. In burns of the skin either above or below, if the burn is extensive the margin of the lid is drawn well up to the brow, and in some cases the ectropion is complete. In these cases the margin of the lid, or what remains of it, the conjunctiva and the tarsus, with a portion, perhaps of the orbicularis muscle, should be dissected from the underlying tissue, and it is well to attach the margin of the lid to the cheek by means of sutures so that the margin of the upper lid, if we are operating on that lid, overlaps the lower lid in its normal position from ⅛ to ½ inch, in order, to give as extensive an area as possible on which to apply the flap, because we must provide for subsequent shrinking. The flap, as Dr. Calhoun has said, should be made somewhat larger than the area to be covered as it is marked out on the surface from which the skin is to be removed, as the arm, so that if we make an allowance of one-third of the diameter of the denuded area it will shrink so that it will just about cover the area. The largest flaps I have transplanted have been 2½ by 2¾ or 2½ by 3 inches in diameter. The flap is removed, taking with it as little subcutaneous tissue as possible, and this tissue, if it has been raised with the flap, should be removed as well as possible before the flap is put in position. The question of the retention of the flap in position then comes up. It was my practice years ago simply to undermine the edges of the denuded area to some extent and to crowd the edges of the flap into this little groove thus formed and to permit it to lie in position without the application of sutures; but later I employed fine sutures to attach the flap to the margin of the denuded area, and also one or two sutures passed through the center of the flap to hold the flap to the underlying tissues. This is not often necessary. It occurred in one or two cases that the margin of the flap became displaced somewhat unless it was held in place by sutures. In regard to the dressing, it has been my custom to cover the flap either with gold-beater's skin or with rubber tissue, the surface of which has been smeared with sterile petrolatum, or petrolatum to which some bichlorid has been added in the strength of 1 to 5,000, then to apply a dry dressing and permit the eye to remain bandaged three to five days before disturbing it, according to the symptoms. The place from which the flap should be obtained is the inner surface of the arm, provided this is available. In some cases it is not available and I have removed the flap from the inner surface of the thigh. In one case I had a failure with a flap from the thigh. This was in a patient who was burned, and her condition was not very good, and because of some peculiarity which I did not and do not understand I had sloughing of the flap. The flap can be removed deliberately. There is no necessity for hasty removal although the removal of the flap and placing it in position should be as expeditious as is consistent with good technic. Perforation of the flap is not harmful.

DR. F. B. TIFFANY, Kansas City, Mo.: I wish to emphasize the importance, as Dr. Weeks has said, of freeing the flap from the connective tissue below. This will prevent its shrinking. There will not be nearly as much shrinking if this is done.

DR. WILLIAM ZENTMAYER, Philadelphia: My experience with the Wolffe graft has not been very satisfactory on account of the amount of contraction that occurs with the lapse of time. A year ago I operated for a cicatricial contraction of the lower lid, and when I exhibited the patient at the Clinical Society at Wills Hospital the result was as nearly perfect as it could be. That flap from that day on has dwindled and dwindled until to-day the result is very little better than it was originally. I remember very well Dr. Hart telling us of a case shown at the American Ophthalmological Society. He took the patient to New London and exhibited him, and then took the patient to the meeting a year later to show that the flap had disappeared. There was not a trace of it remaining. I am sorry to say my experience has been the same with small flaps. There may be some fault in the technic; there may be some subcutaneous tissue left, but I try to do it just as Dr. Weeks explains it.

DR. W. E LAMBERT, New York: I have had the opportunity of doing a number of these cases. Dr. Zentmayer has emphasized the importance of removing the subcutaneous areolar tissue, which takes away the tendency to shrink. A large flap is important. I would emphasize the importance of using the sutures. I had a similar case in which this operation was made for the cure of an ectropion, and the picture of the case here reminds me of that. Proceeding as Dr. Calhoun has described, the result was satisfactory. Dr. Calhoun did several of these operations while an intern with us, and I can testify to his expertness. We are glad to turn these cases over to the house surgeon. A case similar to the one described I did some time ago and the result is yet most satisfactory.

DR. F. PHINIZY CALHOUN, Atlanta, Ga.: The longest time I have had a case under observation is six years, and every year it seems the patient improves. There is no contraction such as Dr. Zentmayer describes in his case. I do not know why that takes place except that the areolar tissue is left and makes the contraction more marked. This paper deals with twenty-five cases, and since writing it I have had three others. In the first of the series of three by accident the graft fitted the denuded surface exactly. I noticed that the healing was quicker than when a large graft would be crowded into an area, but I do not know that this is advisable, because the contraction in instances in which the flap fits exactly would be more marked than when the flap would more than cover. The cases in which operation has been done were mostly cases in which there were severe burns of the face of long standing. The second patient of this series of three was a

1. Tenth Congress of Ophthalmology, Lucerne, 1904.

man who was burned about six months ago. Three months after the burn I operated, and that really is the only case in which I have had a failure, the only case in which there has been marked contraction of the flap following the operation. I attribute that to the fact that I did not wait long enough. If I had waited six months longer, or a year, or two or three, the result would have been better. I usually take the flap from the inside of the left arm in right-handed people. But I have operated on a girl five times. I have restored the upper and lower lids, the area about the nostrils, and have operated also for contraction of the upper lip. I have taken two grafts from each arm and one from the inner surface of the thigh. I only operate on one lid at a time, because in these cases it is necessary to undermine the lid to pull it down and it more than covers the eyeball, whereas if you operate on both lids at one time one lid would overlap the other, which would be objectionable. I always apply a dry dressing first to absorb as much of the moisture, tears and blood as possible. The application of petrolatum, I believe, would prevent this absorption. After the first dressing petrolatum is an ideal dressing.

A CASE OF ACUTE GASTRIC ULCER OF THE ANTERIOR WALL

ANTHONY BASSLER, M.D.
Gastroenterologist to the Peoples Hospital and German Poliklinik
NEW YORK

Ulcers of the posterior wall and greater curvature of the stomach and duodenum in the region of the pylorus

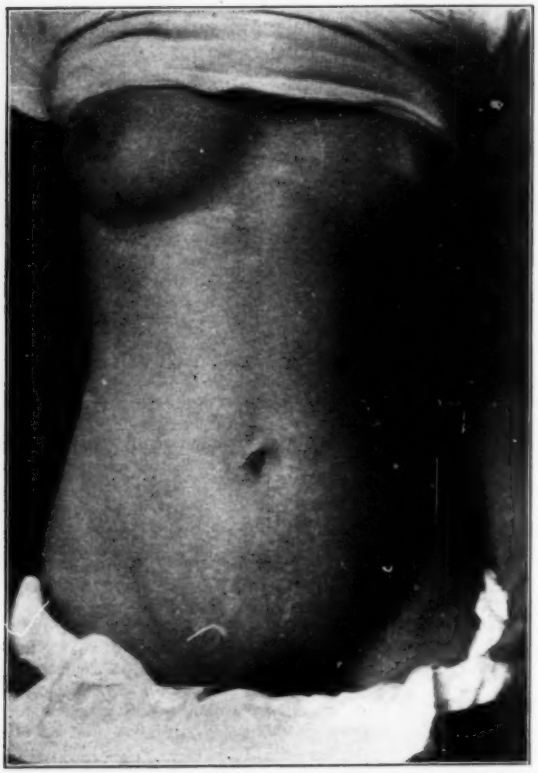

Fig. 1.—Showing the patient and the location of the subjective pain, the point of tenderness on pressure and the plastic exudate. There was no referred pain or tenderness in the back.

are most common, while those of the anterior wall all the way to the fundic region are distinctly uncommon—comprising, possibly, not more than 10 per cent. of the areas with which gastric juice comes in contact in the process of gastric digestion. Ulcers in the latter location are but rarely diagnosed medically, diagnosis usually taking place at operation for their perforation, a complication most likely to happen in these cases because of the unprotected anatomy of the anterior area of the stomach. The rapid peritonitis consequent to

Fig. 2.—*X*-ray plate of the patient, showing the ulcer, the large and prolapsed stomach and the hypermotility. U, ulcer; D, first part of the duodenum; P, pylorus; DD, lower portion of the duodenum; and F, fundus with the stomach rugæ below it.

perforation of these ulcers, also makes the diagnosis of them important, and a case is offered in which this was possible and in which the medical treatment was successful.

Patient.—Miss E. McD., a stenographer, 18 years old, was first seen on Feb. 28, 1911. Her father died at the age of 45; cause unknown. The patient's mother was living and well. The patient had always been fond of sweets (mostly candy) and had indulged intemperately for several years, which at times had brought on an acute distress in the stomach with a day or so of anorexia; other than this the patient had had no illness except measles and scarlet fever in early childhood. In December, 1910, she began to have a constant distress in the stomach, in which the symptoms of excessive gas collection with eructations and pain an hour after meals in the left side of the abdomen were the prominent features. This pain, which was most acute, was relieved to a moderate degree by the taking of food, more so by bicarbonate of soda, and was entirely relieved when the patient lay flat on her back with her corsets off. She stated that by taking milk, eggs and other simple foods in small quantities at a time with the assistance of bicarbonate of soda, she was able to be about at her work. The solid foods she ate evenings and Sundays when she could lie down for three or four hours after taking them. According to her statement, she had lost only 4 pounds since the beginning of her illness.

Physical Examination.—The patient's facial expression was that of intense suffering while sitting and changed to one of complete relief when lying. The lungs were normal, and the heart also, excepting a hemic blow over the body which was transmitted to the vessels of the neck. The skin and mucous membranes were abnormally pale. There was but slight development in the soft body tissues; the long chest and abdomen presented the type of a girl. On palpation the abdomen was held contracted, especially on the left side, and notably the left rectus muscle. An area of exquisite tenderness to pressure was evident about 2 inches above the transverse umbilical line and just at the edge of the rectus. Careful palpation of this area with the knees raised toward the thorax disclosed a mass, thin and soft to the touch, at the exact site of the tenderness, which I am led to believe was a plastic exudate on the gastric peritoneum over the ulcer. The stomach was low and dilated, and gases could be heard passing through the pylorus. The right kidney was palpable to within an inch of the upper pole under deep inspiration. The test-meal (simple) taken the next morning showed a return of 120 c.c., a free hydrochloric acid, 55; combined hydrochloric acid, 28, and a total acidity, 87. A small amount of macroscopic blood was present with one small clot. The feces voided the day before and two days afterward showed the presence of occult blood. Three *x*-ray plates were then taken. Each showed that the stomach had discharged the greater portion of the ounce of bismuth given into the small intestine (hypermotility), that the organ was large and low (dilatation and prolapse), and that the ulcer-bed was lined with bismuth. When the *x*-ray plates were held against the patient's body, and the ensiform and umbilical markers on the plates matched to these parts on her body, the location of the ulcer noted on the plate corresponded exactly to the point of tenderness and the plastic exudate.

Course of Disease.—The next morning when the patient went into the hospital, the blood showed erythrocytes 3,700,000, morphology normal, hemoglobin 67 per cent. (Dare), color index 0.6, leukocytes 8,290, and differential count normal. Kept steadily in bed for three weeks, she was fed by the Lenhartz method, the feedings of milk being given at stated times and amounts during the day and night. The administration of finely comminuted foods was begun late in the third week. The stomach was maintained alkaline by a mixture of alkaline powders, without soda bicarbonate, this being given at three-hour intervals. The bowels were moved each day by a castile soap enema (not saline, because this increases the hydrochloric acidity in the stomach). Liquor ferri albuminatis in 2 dram quantities in water t. i. d. was used to combat the anemia, and an ice-bag was employed during the first days to decrease the tenderness at the ulcer site, although this was hardly necessary as the patient was on her back all of the time. She made a perfect recovery, and when she left her bed there was no spasm of the left rectus, no tenderness on pressure over the ulcer site, and no plastic exudate. The blood had come up to 4,100,000 erythrocytes, 87 per cent. and color index 0.85. She was then fitted with a corset which raised the pyloric region over four inches; her feeding was increased to the taking of more solid foods, the alkaline powder kept up, the iron tonic diminished to half quantity each day, and Carlsbad salts used to move the bowels. She went into the hospital weighing 98 pounds, and now at the end of two months thereafter weighs 127 pounds, and is without a symptom of digestive distress. The *x*-ray plates of to-day do not show the ulcer; the stomach is smaller in capacity, hypermotility is no longer a feature, the test-meals are normal, and the feces free from blood.

126 East Sixtieth Street.

Legal Sentence of Optional Suicide.—In Nevada a condemned first-degree murderer may select one of several methods of self-poisoning in lieu of hanging. Among the poisons he is allowed to select for self-administration is hydrocyanic acid with the information conveyed with the death potion given him, that a drop of this drug put on the tongue will kill instantly.—*Alienist and Neurologist.*

FRACTURE OF THE CERVICAL SPINE*

THOMAS M. WILLIAMS, M.D.
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History.—H. M., aged 24, a Stanford student, very muscular and athletic, while performing in the gymnasium was tumbling over a horse 2 to 3 feet high. He had taken hold of the saddle, flexed his head and neck, and was in the act of going over when his hands slipped off the saddle. His feet being in the air he fell to the mat on the same side of the horse from which he started. He landed on the left side of the head, with the neck completely flexed and was picked up by the boys in the gymnasium and found to be completely paralyzed from the neck down. He was entirely conscious, and complained of some pain in the neck. He had difficult and asthmatic breathing and a weak pulse. Dr. Mosher, who was near at hand, had him placed on one of the stiff mats and with a student to hold his head in extension sent him to the Peninsula Hospital where I saw him on arrival. He was cyanotic and in a state of considerable shock, but had a normal pulse-rate and was given camphorated oil and strychnin with good effect. The pain in the neck was relieved to some extent by slight extension and pull on the head. This also improved the character of the breathing. If the pull was allowed to relax, the patient became more cyanosed and his breathing more asthmatic and some one had to hold his head in this position until we could get a head harness arranged and fitted to him. On first manipulating the head I obtained crepitus in the lower cervical region and a slight prominence could be felt on the right side of the midcervical region. This extension had to be kept up so long as the patient lived, except when he would ask to have it removed for short intervals. This change gave his neck a rest but he would soon ask to have weights reapplied. At first 15 to 20 pounds was necessary. Later 5 pounds was sufficient.

Examination.—At this time Drs. Josiah Kirk and H. B. Reynolds of Palo Alto saw the case with me. A few hours later Dr. Stanley Stillman and Dr. R. L. Wilbur of San Francisco were called and a complete examination disclosed:

1. Complete paralysis of all muscles below those supplied by the nerves from the fourth cervical segment. Patient could shrug his shoulders or move his head.

2. Complete loss of sensation in all its forms extending up to a line of demarcation extending across the chest 2½ to 3 inches below the clavicle and running out over the upper part of the deltoid and around the back.

3. Loss of knee-jerk, ankle-clonus and cremasteric reflex. Plantar reflex normal. (The patient felt the tapping in the back of the neck when the patellar tendon was struck. This was not felt when tapped at any other point.)

4. Priapism partial. Increased by passage of catheter. Bladder and rectum paralyzed.

5. No profuse or abnormal sweating in paralyzed or other parts of body.

6. No areas of hyperesthesia or pain pointing to irritation.

7. Pupils contracted slightly but reacting to light and accommodation.

8. Temperature 97; pulse 71; respiration 32;

9. Respirations purely diaphragmatic and asthmatic. It is is interesting to state here that the boy was a sufferer from asthma, and that the accident brought on an acute asthmatic attack.

10. No interference with swallowing and no hematoma in pharynx.

Dr. Kirk succeeded in getting an *x*-ray photograph of the neck taken from the side which showed a fracture of the fifth cervical vertebra and a dislocation between the fourth and fifth. Displacement was very slight. The plate also shows very prominent body of axis, which might lead one to believe that there was an anterior displacement of the vertebra.

At this time all those who saw the case, I believe, were agreed that there was no indication for operation but that in

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* Read before the California Academy of Medicine, April 24, 1911.

all probability the cord had been severed and the dislocation had been reduced.

The diagnosis was probable fracture and dislocation forward of fourth cervical vertebra completely severing the cord.

The following day Dr. Watters of Watsonville, the boy's family physician, saw him but could see no reason for an operation.

The symptoms as above given remained practically constant for the next five days, except that after two days the plantar reflex became greatly exaggerated so that a stroke on the sole of the foot would cause a contraction of all the muscles of the leg and thigh. The asthma cleared up and breathing was easier, and the patient had at times a sensation of fulness in the stomach and bladder; a time or two also he said that he had a tingling in his hands, that one foot was drawn up or that his hands were extending up above his body.

The bowels were moved by enema, and the bladder emptied of normal urine by catheter. There was some increase of gas in the bowel but no marked tympanites. There was no profuse sweating, no indication of pressure necrosis, and less pain in the neck. The patient slept fairly well. He continued to have trouble clearing his throat of mucus, as he was unable to expel it by coughing, but he had no trouble whatever swallowing food and water. At times he said that he felt like vomiting but he never did so. At times he said that he had pain in the small of the back relieved by change of position. The blood-pressure varied between 110 and 130 mm. and the temperature ranged upward from the beginning, reaching 104.4 F. twelve hours before death. The pulse remained slow and of good quality; the respiration was irregular at times, and the patient was slightly delirious a few times at night, though otherwise perfectly conscious up to within two hours of his death.

On the morning of the fifth day he was cyanosed, with weak pulse and the right heart extended considerably to the right of the sternum; the breathing was shallow, the pupils contracted and the patient restless and uncomfortable. There was dulness at the base of both lungs with coarse râles. The pulse grew weaker rapidly, and the respirations more shallow; the patient became unconscious and both pulse and respiration ceased. The patient went through all the death agonies and was apparently dead, but after some minutes the heart began to beat violently, and respiration began again. Within a few minutes the color was good, pulse stronger, and respiration as easy as at any time. Again the respiration and pulse failed and life seemed extinct. This was repeated four times before death, the patient remaining unconscious from the first collapse. The cause of death was apparently an edema of the cord extending downward to the first dorsal segment, leading to the narrowing of the pupils, and upward to the phrenic centers in the fourth cervical cord segment, causing the respiratory disturbance.

Thomas, in the Report of the Boston City Hospital for 1900, sums up the indications of complete severance of the spinal cord as follows:

1. Complete paralysis, usually of flaccid character.
2. Complete loss of sensation in all its forms.
3. Absence of reflexes, especially of knee-jerk, while the plantar on the other hand is often retained.
4. Complete paralysis of bladder and rectum with priapism.
5. Vasomotor paralysis with sweating of paralyzed parts.
6. Most important is absence of variation of symptoms.
7. Absence of irritative phenomena such as pain.

We had then apparently the classical symptoms of completely severed cord.

One thing apparently mentioned by many reports is the profuse sweating, which was lacking in our patient; and another thing in this case, not brought out in anything I have read, was the great exaggeration of the otherwise normal plantar reflex. This was not of the Babinski type.

The young man's father was willing and anxious for a necropsy and we were thus enabled to confirm or disprove our diagnosis. There was no difficulty in saying to what segment of the cord the injury reached, but those of us who were willing to venture a diagnosis as to what vertebra was fractured before making a close study of the *x*-ray plate placed the fracture too high up, as is practically always the case, according to various clinical reports.

Necropsy.—Dr. Zinsser and Dr. Meyer performed the necropsy. The right heart was markedly distended with dark blood, and there was congestion of the pulmonary bases, but no sign of infection in the body. Dr. Meyer was kind enough to remove the first six cervical vertebræ with the cord and to prepare the specimen for me. His report follows:

Anatomic peculiarities, first six vertebræ: Ventrally the specimen as a whole is slightly asymmetrical, the right half being larger. On its ventral surface there is a marked depression directly inferior to the arch of the atlas. This depression is due to the presence of a large arch with a prominent tubercle in the mid-line and to a still more marked right superior articular process on the axis. Moreover the anterior surface of the odontoid process slopes gradually backward or dorsally throughout its extent and the body of the axis is unusually prominent.

The spine of the axis is very broad and thick, but that of the third vertebra is very narrow and pointed and deflected to the left so as to be united closely with the left process of the deeply bifurcated spine of the fourth. The spine of the fifth, which is deeply and asymmetrically bifurcated, is markedly inclined, completely clasping the spine of the sixth and firmly interlocking with it.

On external examination no displacement of the spines was noticeable. Pharyngeal examination revealed nothing save a marked depression high up in the retropharynx. Digital pressure in this depression accompanied by firm support of the occiput followed by sudden relaxation resulted in a slight but definite impact.

The six cervical vetebræ were dissected *in toto*. No ecchymosis or displacement was noticeable until all muscles had been removed. On the anterior aspect of the specimen a slight depression and ecchymosis into the deep fibers of the longus colli muscle and the anterior common ligament were noticed over the right half of the body of the fifth vertebra. There was also a fracture of the right inferior articular process of the fourth and a superficial fracture of the dorsal inferior portion of the corresponding lamina. A similar fracture of the dorsal inferior surface of the left lamina of the fifth was also present but there was practically no displacement of these fragments; the ligamenta subflava were intact and the external or lateral portion of the articular capsule of the fourth was not ruptured, though the extension of the fracture into the pedicle of the fourth would seem to imply that the minor portion of the capsule was torn.

There was no extradural blood, but the dorsal surface of the dura was somewhat hemorrhagic in the region of the third and fifth vertebræ. But a small amount of cerebrospinal fluid escaped, though the subdural space was completely obliterated by the swollen cord, which completely filled the dura from the third vertebra. The pia and arachnoid were intact, but the cord was plainly hemorrhagic throughout the region of its enlargement. There was marked softening and a depression in its substance was palpable opposite the root of the fifth nerve.

After hardening, the nerve-roots on the right side were cut and the cord reflected to the left. A slight round prominence and a longitudinal tear 2 cm. long on the dura and posterior common ligament were found opposite to the fourth and fifth vertebræ. The prominence was confined to the body of the fifth, while the mid-point of the tear was opposite the third intervertebral disk, i.e., the one between the fourth and fifth vertebræ. Opposite this tear a similar one, but only 1 cm. long, was found in the arachnoid and pia, and through it about one-third c.c. of cord substance protruded. There was only a trace of a clot surrounding the tear in the dura and ligament. On transverse section the gray matter of the cord was found

to be practically obliterated by hemorrhage and there was softening of the whole substance of the cord in this region of enlargement.

On sagittal sections of the bodies of the vertebræ a comminuted fracture of the right part of the body of the fifth accompanied by a transverse fracture of the disk between the fourth and fifth were found present.

Some of the organs (lungs, kidneys, spleen, heart and aorta, piece of stomach) were submitted to Dr. William Ophüls for examination who reports as follows:

Pathologic Report.—Some irregular areas of collapse in both lower lobes; no scars of apices. Very slight pigmentation with coal dust. Aorta small, moderate hypertrophy of left ventricle (athletic). Few small slightly elevated yellow spots in aorta and on large flap of mitral valve. Hemorrhagic erosions in stomach. Marked fetal lobulation of kidneys. Marked passive congestion of spleen and kidneys. Emphysematous inflation of asthmatic lungs. Sections of lungs show hypertrophy of involuntary muscle in small bronchi. Much contracted and lumen of bronchi very narrow. Lung tissue hyperemic, air-spaces partly dilated, partly collapsed. Few areas of cellular thickening and fatty degeneration in intima of aorta; some fibrosis in media and adventitia. Kidneys show desquamation in small tubules, few hyaline glomeruli, no arteriosclerosis in larger arteries. Marked hyperemia of venous capillaries in spleen. Mucous membrane of stomach normal. Asthmatic lung, partial collapse of lung tissue, passive congestion of kidneys and spleen; beginning arteriosclerosis of aorta.

ANAPHYLAXIS AND THE TOXIC SUBSTANCE FROM VIRULENT PNEUMOCOCCI *

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From a study of the action of autolytic extracts in NaCl solution of virulent pneumococci, it has been learned that they become very toxic to normal guinea-pigs at a certain period during autolysis. Intravenous or intracardiac injections of from 3 to 7 c.c. produce symptoms and post-mortem changes in every way typical of anaphylactic shock obtained in sensitized pigs following the second injection of protein. The symptoms usually begin before the injection is completed and death occurs in from two to ten minutes. Thus far, eight strains of virulent pneumococci have yielded this highly toxic substance. Early the extracts are only slightly toxic to normal animals, but very toxic to animals sensitized with extracts of pneumococci. At the end of from twenty-four to forty-eight hours at 37 C. (especially if ether has been added) or from four to ten days in the ice-box (without ether) they are very toxic to normal animals, but only moderately or not at all to sensitized animals, while still later they become quite harmless to both normal and sensitized animals. It makes no difference whether the cocci are washed or not, whether grown in broth or on blood-agar slants. Non-virulent pneumococci, which as a rule contain little or no autolytic ferment, heated virulent pneumococci and pneumococci killed with formaldehyd solution or bichlorid of mercury fail to yield any toxic substance for normal guinea-pigs. The toxic property of extracts of virulent pneumococci is destroyed largely on heating to 60 C. for half an hour and wholly on boiling for ten minutes. Digestion with serum, with leukocytes or with trypsin at 37 C. for eighteen to ninety-six hours also destroys the toxic power. A similar toxic substance is obtained at a certain period in broth, and especially in serum broth, cultures of virulent pneumococci. Here especially and less so in the NaCl solution extracts, the toxicity is greatest when proteolysis as determined by the formalin titration method has reached a definite point.

From consideration of the results and from a comparative study of the effect of extracts in NaCl solution and of the anaphylotoxic substance obtained by the interaction of pneumococci (antigen), immune serum (amboceptor), and normal serum (complement), and by normal serum alone on pneumococci it seems certain, first, that pneumococci, and hence probably other bacteria furnish at least a part of the anaphylotoxic substance when treated with amboceptor and complement *in vitro*, as well as *in vivo* when injected into previously sensitized animals, and second, that the symptoms in pneumococcus infections may be due to this highly toxic substance. The finding of this toxic property of extracts of pneumococci has another important bearing. Based on studies of anaphylaxis a number of investigators conclude that bacterial intoxication is possible only after certain antibodies have been formed which now attack the infecting bacteria and convert their relatively harmless bacterial proteins into highly toxic products. That this may be the case in many infections is supported by clinical observations. But in view of my results and other facts, it seems certain that at least some strains of virulent pneumococci possess all the essential properties to produce disease forthwith.

A fuller report of this study will appear in a forthcoming number of the *Journal of Infectious Diseases.*

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* From the Memorial Institute for Infectious Diseases. This work was aided by a grant from the American Medical Association.

EMPHYSEMA OF THE SKIN OCCURRING DURING LABOR

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Emphysema of the skin is of rare occurrence, especially as a result of violent straining during labor. It has been known to occur from excessive vomiting or paroxysmal attacks of coughing, which caused a rupture of the pulmonary alveoli with the escape of air into the subcutaneous tissues. The case here reported is the only accidental complication of its kind that has occurred in the Sydenham Hospital.

The patient is a primipara, 20 years of age, a shop-worker by trade, admitted in labor into the maternity wards of Sydenham Hospital at 7 a. m., March 21, 1911. There was a three-finger dilatation of the cervix, head engaged (R. O. A.), membranes unruptured, heart sounds audible in the right lower quadrant anteriorly. A vaginal septum ¼ of an inch thick, extending from a point just below the meatus urethræ and disappearing into the fourchette, completely divided the orifice. The pelvic diameters were normal, measuring respectively, external conjugate, 20 cm.; diagonal conjugate, 10.5 cm.; interspinal, 22 cm.; intercristal, 26 cm.; anteroposterior at the outlet, 9.5 cm.; transverse at the outlet, 7.5 cm. The temperature was normal; catheterized specimen of urine negative.

At 2 p. m. the same day the membranes ruptured, pains became more frequent and as the presenting part was dilating the vulvovaginal orifice and stretching the septum in advance of it, the patient made excessive efforts to overcome this obstruction. Spontaneously with her straining a swelling suddenly appeared on the right side of her neck and around the angle of the lower jaw, gradually covering the face on that side, distorting it and closing the eye completely. By the time the septum had been broken through and delivery of the child was accomplished, the swelling had extended to the root of the neck and upper part of the chest with a distinct line of

demarcation. Complicating this, as a result of violent straining, there was a prolapse of the cervix outside of the vagina which, after the placenta was expelled, was replaced and retained by a vaginal pack. This degree of prolapse is rare in primiparæ. This patient was in labor sixteen hours.

On examination of the swelling, a cushiony feeling with a distinct crackling sensation was imparted to the fingers over the entire area. There was no redness, pain or tenderness accompanying it, but there was some dyspnea and a slight cyanosis. No wound of the face or mouth was perceptible and laryngoscopic examination of the throat showed everything normal, rupture probably having taken place at the apex of the right lung with a burrowing of air in all directions. Percussion produced a tympanic note over the swelling on the upper part of the chest, palpation, a decrease of tactile fremitus, and auscultation, distant breathing and fine crepitant rãles. The patient was left alone and the swelling gradually subsided day by day until it had entirely disappeared at the end of the tenth day, when she was discharged. Normal temperature persisted throughout; the catheterized urine was still negative and breathing on that side more distinct.

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[COMMENT.—Emphysema of the skin occurring during labor is rare. Kosmak in the *Bulletin* of the Lying-in Hospital of New York in March, 1907, collected reports of seventy-seven cases from the literature since 1791. In Dublin there were only seven cases in 13,478 labors. The complication is found almost always in primiparæ. Like the case described above, the swelling generally begins in the face and spreads to the neck. In many of the cases tenderness and dyspnea were more prominent. No anatomic explanation of the rupture of the air cells was found in any case. The emphysema began generally with severe bearing down pains.

The prognosis is always good, the swelling disappearing in from a few days to several weeks. The treatment is symptomatic and expectant.—ED.].

REMOVAL OF AN OPEN SAFETY-PIN FROM THE TRACHEA BY UPPER BRONCHOSCOPY

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The inhalation of an open safety-pin is a sufficiently rare accident to warrant the following brief report, and with one possible exception, the removal of an open safety-pin from the trachea by any other than a cutting operation seems not to have been mentioned in the literature.

Patient.—A. S., a girl of 13 years, was referred to me by Dr. John Hoskins, Chester, Pa., May 8, 1911, with a history of having "swallowed" a safety-pin on the preceding day, while laughing with some of her friends.

Examination.—The doctor reports having seen the child a half hour after the accident and having found her in a very nervous state, with slight aphonia, but suffering no pain or other inconvenience. The patient thought she could feel the pin just below the larynx in the region of the cricoid cartilage; but Dr. Hoskins failed to locate it by means of the laryngoscopic mirror. Thinking that it was probably in the esophagus, he then resorted to various emetics, but the resultant vomiting failed to dislodge the pin. The child was then put to bed and on the following morning she was taken to the hospital, where another unsuccessful attempt was made to locate the pin by means of reflected light, and to remove it by means of esophageal forceps. A skiagraph was then taken, and the patient referred to my department by the visiting surgeon, Dr. H. M. Hiller. I immediately examined the patient by means of reflected light and the laryngoscopic mirror, and I thought I could see the head of the pin about a half or three-quarters of an inch below the glottis, but I could not be sure. The skiagraph indicated that the pin lay in an antero-posterior plane, however, and this seemed to indicate its lodgment in the trachea rather than in the esophagus, because (as has been pointed out by Dr. Chevalier Jackson and others) the plane of an open safety-pin in the esophagus is usually in the lateral position.

Having no bronchoscopic instruments at hand, and the patient being comparatively comfortable, with the exception of a slight sensation in the trachea during occasional spells of coughing, it was decided to put her in bed again until the necessary instruments could be obtained, and other preparations made for securing the pin.

Removal of Pin.—On the following evening, the patient was chloroformed and the Jackson bronchoscope passed into the trachea in the usual manner through the laryngoscope. The projecting, flat, square head of the pin almost immediately came into view, and by means of the special instrument, devised originally, I think, by Dr. Algernon Coolidge, Jr., of Boston, the distal spiral end of the pin was engaged in the ring and pushed down and the pin was closed with the forked probe.

When, however, an attempt was made to withdraw the bronchoscope and the inclosed instruments with the pin attached, it was found impossible to do so, and thinking that the obstruction might be due to some twisting of the pin and to a possible tugging on the tracheal wall, but little force was used. I then decided to withdraw the two instruments in the tube, first the pin-pusher, and then the ring instrument, and to our great gratification, the pin came through the tube on the end of the ring. It was under slight pressure, however, so that it snapped off the ring on the floor before we could get any definite knowledge as to how it was engaged in the instrument. It was then with considerable difficulty that the glottic spasm was overcome and the tube removed from the larynx.

Subsequent History.—The patient took the anesthetic well, and with the exception of slight reflex spasms of the respiratory muscles, notwithstanding occasional applications of a 20 per cent. solution of cocain to the tracheal wall, no unusual difficulties presented themselves. A hypodermatic injection of two hundredths of a grain of atropin before the operation served to check secretions at the end of the bronchoscope, so that an aspirating apparatus was unnecessary.

Barring a little tracheal catarrh for a few days, the patient had no after effects that could in any way be referred to the presence of the foreign body, or to the measures employed for its extraction. She lost no blood in the operation, nor was there any tinge of blood in the two or three days of slight cough and expectoration which followed.

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STUDIES ON PYOCYANEUS IMMUNITY

WITH SPECIAL REFERENCE TO THE THERAPEUTIC VALUE OF VACCINES *

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Inoculations with dead, attenuated, and even fully virulent bacteria, and extracts of their cells, have been employed to some extent as prophylactic and curative measures in combating the ravages of certain infectious diseases during the past thirty years. In spite of the accumulated experimental evidence demonstrating the value of these agents in inducing immunity, however, their employment was not widespread and, with the exception of an occasional wave of interest sweeping over the medical world and soon becoming quiescent, comparatively little attention was directed toward this phase of therapeutics by the practitioner.

* From the Laboratory of Hygiene; Dr. A. C. Abbott, Director.

This state of affairs existed until Wright, after years of arduous experimentation, advanced a new theory regarding immunity, namely, the opsonic, and advocated the employment of bacterial vaccines in the treatment of certain infections and, with other investigators, as prophylactic measures against other diseases, advancing at the same time an extremely ingenious method of controlling the inoculations by determining the opsonic value of the serum. Here, at last, was something tangible as regards when, where and how to employ bacterial vaccines as therapeutic agents and the attention of the profession was attracted; numerous articles on the clinical phase of the subject appeared; bacterial vaccines were placed on the market by enterprising manufacturers, and these agents were employed at one time or another in treating the majority of bacterial diseases, frequently with little knowledge or forethought on the part of the physician as to the nature of the disease or the organism responsible for its existence.

The therapeutic employment of bacteria and their products in combating infections had not, up to this time, by any means kept pace with scientific experimentation; while, as regards the opsonic theory and the employment of Wright's vaccines, the reverse is true. Scientific research has not kept pace with the attempts on the part of numerous practitioners to cure, by the use of vaccines, various forms of infection, the specific cause of which is known; failing to realize that immunity is of various types, and that certain infections are of such a nature that little or nothing can be expected from the use of vaccines.

Among the infections in which vaccines have been employed as therapeutic measures are those in which the *Pseudomonas pyocyanea* (*Bacillus pyocyaneus*) is concerned either as the primary cause or as the secondary invader of a process primarily due to some other organism. There are decided variations of opinion among those who have employed pyocyaneus vaccine regarding its value. Some claim to have obtained excellent results; others are of the opinion that the vaccine is of little or no value; while still others are non-committal.

I have employed vaccines in treating local infections in which this organism was present, but have never observed improvement in the condition that could be attributed to their action, and, have, on several occasions, made the statement that pyocyaneus vaccine, so far as personal experience went, appeared to be of no value. This statement occasioned some adverse criticism, and the following research was undertaken with the object of determining if possible, by animal experimentation coupled with clinical experience, whether or not vaccines could rationally be expected to exert a curative action on pyocyaneus infections. In this work, as was anticipated, some difficulties were encountered. When one considers the fact that the infections produced by this organism, as compared with those due to many other bacteria, are infrequent, it would seem that their consideration was of less importance than problems relating to other subjects; yet the attention attracted by, and the severity of such infections in many instances, together with the differences of opinion regarding the value of vaccines, raises the problems to a sufficient degree of importance to warrant a somewhat extended investigation in attempting to decide the questions raised.

This organism, first isolated by Gessard, is widely disseminated and varies markedly in its pathogenicity; some strains having very slight, if any, pathogenic properties, being often present apparently only as harmless saprophytes; other strains possess a greater or lesser degree of virulence, some being so highly virulent as to cause death in a very short time after the tissues are invaded. It is usually found in local infections, in some cases as the primary causative agent, but more often as a secondary invader of a condition primarily due to some other organism. The organism may gain access to the general circulation and bring about, by the action of their toxic products, either a septicemia or a pyemia.

These general infections, while not common, are of great severity, usually terminating in death. Such infections are usually seen in individuals whose resistance has been lowered by some metabolic disturbance due to other causes—in other words, some systemic condition in which the normal defenses of the body have been decreased.

Waite[1] reports two interesting cases of general pyocyanic infection, and gives an excellent summary of the various conditions in which the organism under consideration is found, together with references to the literature on the subject.

Different strains of the organism likewise vary in the degree of pathogenicity toward the lower animals; some apparently exerting no detrimental influence on the animals of the laboratory, while others cause death in a shorter or longer period. Cultures grown on artificial media usually lose their virulence, to a great extent, within a comparatively short time. One may succeed in bringing about an increase in the virulence of some attenuated strains by passing them through a series of guinea-pigs; in other cases, the virulence is apparently lost.

The pathogenic action of this organism, as is well known, is not due to one, but to several toxic substances; which fact must be taken into consideration in the treatment of infections caused by its presence. Wassermann[2] demonstrated the presence of a soluble toxin which differs from the majority of toxins in its resistance to heat, 100 C. not rendering it inactive. He further concluded that an endotoxin was formed. These facts have been confirmed by others. Gheorghiewski[3] demonstrated a destructive action on the leukocytes, which he attributed to the action of a leukocydin.

This phenomenon is frequently observed in making opsonic preparations, especially with highly virulent and active cultures, and was an interfering element in our work, the counting of the bacteria in the leukocytes being rendered difficult by the fact that many of these cells presented a granular or disintegrated appearance. This was so marked in some preparations as to render their study of no value, and correct numerical estimations in these preparations were impossible. This difficulty was overcome by washing the organisms in salt solution, centrifugalizing, and employing for the suspension the sedimented bacteria. The phenomenon was at first attributed to enzyme action. It may have been due to a leukocydin. Extracts of the bacterial cells did not, in the few experiments made with them, bring about this change in the leukocytes, but old toxic filtrates exert a marked leukocytolytic as well as hemolytic action

The organism also contains a pyogenetic proteid (pyocyaneus proteid) which can be separated from the cell, and exerts marked positive chemotactic properties.

Immunity against the *Pseudomonas pyocyanea* is composite, as might be expected from the multiplicity of the toxic agents produced. Wassermann,[2] by immuniz-

1. Waite, H. H.: Jour. Infect. Dis., 1908, v, 542.
2. Wassermann, A.: Ztschr. f. Hyg., 1896, xxii, 265.
3. Gheorghiewski: Ann. de l'Inst. Pasteur, 1899, xiii, 298.

ing with old sterile, toxic, bouillon cultures, produced an antitoxic serum which was active against the toxin and immunized to some extent against the living organisms; he also demonstrated the fact that the serum of animals immunized with the living organisms exhibited the agglutinative phenomenon,[4] but had very little or no action against the toxin. These results have been confirmed by others. He further claimed that the serum of such animals exerted a marked bacteriolytic action when injected with the organisms into the peritoneal cavity of normal animals, and that when the organisms were injected into the peritoneal cavity of immune animals this phenomenon was quickly manifested, but the serum of such animals did not exert a bacteriolytic action greater than normal serum in vitro.

Muller[5] states that he was able to demonstrate a bacteriolytic action *in vitro* under anaerobic conditions.

With the advent of the opsonic theory the opsonizing power of various sera was tested in relation to a large number of the known pathogenic species of bacteria, among them being the *Pseudomonas pyocyanea*, and, as will be seen in the following report, a marked increase in the opsonins can be brought about by actively immunizing animals with both living and dead organisms.

In the experiments made I failed to demonstrate a bacteriolytic action *in vitro*, under either aerobic or anaerobic conditions, more marked than with normal serum. In dealing with this phenomenon, the agglutinative action of the serum must be taken into consideration, as but one colony will be produced from a mass of agglutinated bacteria, although such a mass might contain fifty or more organisms capable of developing. It is offered as a suggestion that some of the conflicting evidence regarding the bacteriolytic action of immune sera is due to the fact that this factor did not receive due consideration. After some disappointing and conflicting results, glass beads were placed in the tubes of diluted serum employed for the purpose of demonstrating bacteriolysis, and the interference caused by agglutination eliminated by shaking. The same precedure was resorted to when working with the peritoneal exudates.

I failed to demonstrate the marked bacteriolytic action in the peritoneal exudate, as described by Wassermann, either in the peritoneal cavity of immune animals or normal animals injected with immune serum and bacteria; but did note a moderate exhibition of a process that simulated Pfeiffer's phenomenon, a marked agglutination and pronounced phagocytic activity. I am, therefore, forced to the conclusion that the principal factors in eliminating the organisms are agglutinins and opsonins.

Following the injection of the organisms into the peritoneal cavity, there is marked exudation of leukocytes. This is much more noticeable in immune than in normal animals, and in normal rabbits than in guinea pigs, the latter succumbing to the infection in a short time when a virulent culture is employed. Non-virulent cultures do not bring about this extensive leukocytic exudation, but there is evidence of both phagocytosis and agglutination.

Gheorghiewski[3] demonstrated this phagocytic and agglutinative phenomenon in the peritoneal fluids before the advent of the opsonic theory.

Following the injection of the organisms, both intravenously and intraperitoneally, there is a decrease in the number of leukocytes in the circulating blood, this being followed within a few hours by a marked increase, which is limited principally to the polymorphonuclears. The non-virulent organisms did not produce this phenomenon to any extent.

The animals employed in the majority of the experiments were rabbits. Some guinea-pigs were used, especially for the purpose of determining and enhancing the virulence of the different strains, and to study the phenomena following intraperitoneal injections.

Six different strains of the organism were employed, their characteristics being as follows:

CULTURE A.—Isolated from the oral cavity; cultivated on artificial media for four years; non-virulent for rabbits and guinea-pigs; an active producer of pyocyanin.

CULTURE B.—Source unknown; has been growing on artificial media for at least ten years; non-virulent for rabbits and guinea-pigs, and virulence could not be restored.

CULTURE C.—Isolated from suppurating wound on leg; low degree of virulence for guinea-pigs; non-virulent for rabbits; virulence was increased by passage through guinea-pigs.

CULTURE D.—Isolated from suppurating wound; highly virulent for guinea-pigs; killed rabbits in from five to seven days.

The other two cultures presented no features differing from A and B and were discarded after preliminary tests.

IMMUNIZATION WITH NON-VIRULENT CULTURES

The non-virulent cultures may be disposed of in a few words, for in no instance could the protective elements be increased in a noteworthy manner with the exception of the agglutinins; which, in the case of two rabbits, were increased sufficiently to agglutinate in dilutions of 1:400 and 1:500, respectively, the strain of the organism employed in the immunization, but would agglutinate the virulent culture (D) only in low dilutions. This is contrary to the results obtained with the serum of rabbits immunized with the virulent organisms; here the agglutination was approximately as great for the other strains as for that employed in immunizing; neither would the non-virulent strains or the old filtrates render animals immune to the action of the virulent cultures, the treated animals succumbing to the infection as soon as the normal controls.

IMMUNIZATION WITH VIRULENT STRAINS

A. Living Organisms.—In this series the organisms were cultivated on agar for twenty-four hours, suspended in salt solution, and rabbits immunized by injecting subcutaneously the fully virulent organism, at intervals of five days, beginning with a dose of 5,000,000 and gradually increasing to 100,000,000. The number of injections varied from four to ten. The first two or three inoculations produced some induration at the point of inoculation, but later doses apparently had no effect.

In these animals there was a primary fall in the opsonic index, never amounting to more than 30 per cent., followed by an increase amounting to, in the case of animals receiving eight to ten injections, from 80 per cent. to 100 per cent. After the first injection, following a primary decrease which persisted for a few hours, there was an increase in the number of leukocytes in the circulating blood. After an interval of from two to four days, these became normal; this phenomenon was not as marked following subsequent inoculations. The agglutinins were markedly increased, the serum of immune animals agglutinating in dilutions of 1:1200 and in one case over 1:1500. Two of these animals were later inoculated, ten days after the last injection: one into

4. Wassermann: Ztschr. f. Hyg., 1903, xlii, 267.
5. Müller, Paul: Centralbl. f. Bakteriol., u. s. w., xxviii, 577 and 903.

the circulation; the other, into the peritoneal cavity, with large doses of the virulent organisms. They survived the inoculations, showing no manifest symptoms. The opsonic index following the inoculation became somewhat depressed, but rose again after a few days. The agglutinins were not appreciably affected. The phenomenon appearing in the peritoneal exudate has already been mentioned.

B. Immunization with Killed Organisms.—Rabbits were given, at five-day intervals, eight doses of the organisms heated to 60, 65 and 75 C., respectively, for one-half hour. The serum of rabbits immunized with the vaccine heated to 60 and 65 C. was very nearly as active as that of those immunized with the living organisms; while the rabbits treated with vaccine heated to 75 C. exhibited but a moderate increase in either the opsonic or agglutinative elements. Those exposed to high temperatures were apparently inert.

Of the animals treated with the organism heated to 60 C. one was inoculated intraperitoneally and another intravenously with the same amount of culture employed in inoculating those immunized with the living organisms; both survived. Two immunized with organisms heated to 75 C. were inoculated in the same manner; both succumbed to the inoculation in fourteen and eighteen days respectively. Normal controls inoculated with the living organisms died in from five to seven days, showing the characteristic parenchymatous changes.

C. Immunization with Extracts of Cells.—The organisms were cultivated for twenty-four hours on agar, washed with salt solution, heated to 60 C. for one-half hour, and placed in the incubator, in salt solution, for four to five days, then well shaken and centrifugalized until the fluid became clear. This fluid contained the endotoxin liberated through autolysis of the organisms during the period of incubation. The serum of animals treated with these fluids agglutinated in dilutions of from 1:150 to 1:200. Normal controls did not exert the agglutinative function in dilutions of over 1:10 to 1:15. The opsonins were apparently unaffected, no evidence of either an increase or decrease presented. These animals succumbed to the action of the virulent organisms as quickly as did the normal controls.

D. Immunization with Toxic Filtrates. — Rabbits treated with from eight to ten doses of an old, sterile bouillon filtrate, beginning with 0.1 c.c. and gradually increasing to 2.0 c.c. showed no marked evidence of either opsonic or agglutinative immunity. There was some increase of the agglutinins, but in no instance did they agglutinate in a dilution greater than 1:100. These animals were rendered immune to large doses of the toxic filtrate.

Attempts to immunize rabbits with the pyogenetic proteid were made, but there was no demonstrable increase in either the opsonins or agglutinins. The animals so treated succumbed as quickly as normal controls to the action of the virulent organisms.

Two rabbits treated with pyocyanin showed absolutely no increase in protective substances; there was a transitory decrease in the opsonin content of the serum.

The injection of vaccine into animals inoculated intraperitoneally and intravenously with virulent organisms at no time exerted a beneficial effect, these animals succumbing as quickly as those not treated with vaccine.

Neither could I regularly demonstrate what might be called a marked beneficial action by injecting vaccine into rabbits inoculated subcutaneously with virulent organisms. In all cases the animals survived the inoculation, but so did the majority of controls inoculated with the same dose and treated with a corresponding amount of vaccine. It is true that in but one of the animals treated with vaccine did the local infection suppurate and form an abscess; while in three out of five controls suppuration, with abscess formation, was produced, from the effects of which they recovered in a few days. One control died from a general septicemia, while the other recovered from the inoculation with no further evidence of infection than a marked subcutaneous induration which gradually disappeared.

The question primarily under consideration now awaits an answer. It is not my desire to enter into a detailed discussion of the subject. The foregoing experiments, together with those of other observers, leave no doubt in my mind as to the multiplicity of both the toxic agents and the protective elements concerned in pyocyaneus infection and immunity.

There is no doubt of the fact that, experimentally, there is a marked increase in the opsonins and agglutinins produced by immunization, not only with the living organisms, but with the vaccine as well; this point, coupled with the fact that the leukocytes, not only in the peritoneal cavity, but also subcutaneously, exert a marked phagocytic action, leads one to consider that opsonic immunity is of much more import in connection with pyocyaneus infections than has been attributed to it up to date. This being the case, it might be expected that vaccine would be the rational agent in treating infections produced by the organism under consideration. When one considers the toxic substances produced, however, and the fact that the immunity is composite, in which at least three elements enter (antitoxins, agglutinins, opsonins), with evidence furnished by some in favor of a fourth (bacteriolysin), one may hesitate in expressing an opinion. It would seem that, even in local infections, the vaccine would not bring about sufficient stimulation of one or two properties (agglutinins and opsonins) to overcome, not only the organisms, but the effects of their toxins, which we cannot hope to render inert by injecting vaccine into the tissues. This toxin is evidently an important factor in pyocyaneus infections. Active antitoxic sera have been produced, and it would appear that the rational procedure would be to employ such serums in conjunction with vaccine; but here difficulties arise, which so far have interfered with the production of antitoxic serum in sufficient quantities to be of value as a therapeutic agent.

The fact that the vaccine will not regularly exert a curative action on infected rabbits is noteworthy, but must not be considered as a condemnation of these substances; that they do exert such an action to some extent in local infections is important. The fact that they have apparently no curative action when the organisms are injected into the peritoneal cavity and circulation only bears out what seems to be the opinion of the majority regarding the bacterial vaccines in general; i. e., that their value in the treatment of general infections is limited. I saw no evidence in animals suffering from a general infection that could lead to the conclusion that the vaccine had exerted a detrimental influence. As the course of such infections may be hastened by the injection of a very small amount of toxin, vaccines should be employed with care. They should be prepared from twenty-four hour agar cultures freed from pyocyanin and any toxin by washing in salt solution, centrifugalizing, and utilizing the sedimented bacteria in preparing the vaccine. If such vaccine be employed it should always be prepared from the strain of the organism causing the infection, as non-virulent strains will not confer

immunity; not only should those possessing no virulence when isolated be avoided, but also those in which the virulence has been reduced by continuous existence on artificial media.

SUMMARY OF RESULTS AND CONCLUSIONS

1. A marked increase in both the opsonic and agglutinative elements can be induced in the animal economy by the injection of vaccine as well as living organisms. Therefore, employment of vaccine in treatment of local pyocyaneus infections would appear rational.

2. However, there is also a toxin produced by the organism under consideration, the action of which manifestly cannot be counteracted by the use of the vaccine.

3. Should one decide to employ vaccine in treating these infections, such vaccine must be prepared from the organism concerned in the individual infection under treatment, and never from strains that have been cultivated on artificial media for a number of generations. These organisms soon lose their virulence under artificial cultivation and at the same time, at least to a great extent, their power of conferring immunity.

4. Bacteriolytic elements could not be demonstrated *in vitro* under either aerobic or anaerobic conditions.

5. The phenomena appearing in the peritoneal cavity of guinea-pigs and rabbits, following the injection of the organisms, are apparently essentially agglutinative and opsonic (phagocytic); but little evidence presented to confirm the statement to the effect that there is an active bacteriolysis.

6. Old toxic filtrates or extracts from the cells produce little or no increase in the agglutinative and opsonic functions; but the toxic filtrates do produce a high degree of immunity against such filtrates.

A CASE OF RAYNAUD'S DISEASE

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SPRINGFIELD, MO.

It is estimated that there is about one case of Raynaud's disease among every thousand patients sick from all causes. The disease is, therefore, somewhat rare, and the following case is especially interesting because of its unusual severity, both with respect to the gangrene and the accompanying nervous symptoms.

Patient.—E. J. C., a white man, was a farmer, aged 30, with good habits and no history of syphilis. His father is an alcoholic and his mother a syphilitic. About two years ago, while in good health, patient had a sudden dry gangrene of the tips of his right fingers, developing in a few hours. No exciting cause, as cold or emotional disturbance, was noticed, neither were any preliminary stages of pallor and cyanosis, but the patient was a poor observer, ignorant and unreliable. The attack was followed by sloughing of the necrotic tissue, but before the fingers were healed the gangrene reappeared, attacking the fingers higher up, so that two or three had to be amputated. Then patches of gangrene appeared on the hand, and after a time it was amputated. Gangrene and amputation followed each other up the arm until, after five or six operations, only the upper third of the upper arm remained. Then two finger-tips of the left hand became gangrenous but healed spontaneously, leaving scars. About this time three gangrenous areas, each about the size of one's little finger, appeared on the front of the chest, below the right nipple; these healed, leaving red, angry-looking scars. The left great toe was also affected and a slight scar produced. Then, last of all, the posterior surface of the left hand was attacked. At bed-time, April 13, 1911, he felt a burning, stinging sensation of this region, and, from previous experience, knew what to expect. He went to bed and to sleep but was awakened at 3 a. m. by terrible pain in his hand, which he found necrotic and black over part of the posterior surface. He hurried to a hospital, where we saw him for the first time.

Physical Examination.—The patient appeared to be a well-developed, muscular young man with a florid face. The scars noted above were seen. Thoracic and abdominal organs were negative; arteries normal. One undescended testicle had been removed; the other testicle was in the scrotum but undeveloped. The mental state was one of extreme depression; the patient wept freely and begged that his hand be saved. But at the same time he rather overacted and seemed to court sympathy and interest in his case. The gangrenous patch was on the inner half of the posterior surface of the left hand. It covered about four square inches, was irregular in outline with sharply defined borders, was black and dry, and reached down the dorsum of the three inner fingers. On the middle and ring fingers it was limited to the proximal phalanx, but on the little finger extended to the nail. The tips of all the fingers were healthy. The healthy skin on the back of the hand was of a dusky hue. The urine was normal, except for the presence of uric acid crystals; blood was also normal.

Course.—Twelve hours later the gangrene had extended an inch toward the wrist, but there it stopped and never spread further. The necrotic tissue after a few days was dissected off (it was very superficial and still dry), and the wound began to heal by granulation with unusual rapidity. The nervous symptoms from the date of entrance, April 14, until the date of death, May 26, were spectacular. Six times the patient was suddenly seized with a total motor and sensory paralysis, at which times he was wholly insensible to painful stimuli. During the attacks he could not speak above a whisper. The average duration of these attacks was about twenty minutes, and they always left as suddenly as they had come. Twice he became totally blind; he remained so once for twenty-four hours and once for forty-eight hours. Ptosis was present most of the time. His commonest symptom was epileptoid attacks. These were not attended by loss of consciousness, were very painful and consisted of spasm of all the flexor muscles, drawing him forward into a bow. Retention of urine was present for three days. Several times he became delirious, but each time the delirium, after several hours, left him suddenly and completely. Much of the time a coarse tremor of the legs was present. Motor aphasia came and went several times, independent of the paralytic attacks. The face was usually flushed, the appetite poor, the bowels constipated. Pain was present most of the time and was excruciating. It was referred to the occiput, the spine, the stomach, the bladder and the gangrenous little finger. These pains were only partially controllable by large doses of morphin. Mentally, the patient remained depressed, even in despair. He was, nevertheless, fond of talking about himself and his disease, boasted of the operations he had been through, hinted that he ought to be exhibited to the medical society and seemed generally inclined to play for sympathy. He was very suggestible; the epileptoid attacks could sometimes be brought on by talking of them, and hypodermic injections of sterile water often relieved his pains. But his pain was frequently genuine, and finally, after several days of great suffering, the pain being in the head and bladder, the patient died, presumably from exhaustion.

Only a partial autopsy could be obtained. The organs of the chest and abdomen were found normal, but the brain and cord were not examined.

Most of the above symptoms may be found in the books as occurring in severe cases of Raynaud's disease, and they may be explained on the grounds of localized, temporary anemia occurring in various regions of the brain or in other parts of the body. For instance, angiospasm of the skin causes gangrene; angiospasm of the retina, transitory blindness; angiospasm of the walls of the intestine, colic. The relation of hysteria to Raynaud's disease is discussed by the neurologists; there certainly was in this case, as in most others of this disease, a hysterical element, and without the gangrene the clinical picture would have been one of hysteria major.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SCARLET R MEDICINAL, BIEBRICH.—Rubrum Scarlatinum.—Scarlet R Medicinal, Biebrich, is amido-azo-toluol-beta napthol, $CH_3C_6H_4.N:N.C_6H_3.CH_3N:N.C_{10}H_9.OH$.

Scarlet R Medicinal, Biebrich, is a dark brownish red powder, nearly insoluble in water, slightly soluble in benzene and acetone and easily soluble in chloroform, oils, fats and phenols. It is slightly soluble in cold alcohol, somewhat more soluble in hot alcohol, while warm petrolatum and paraffin dissolve rather large quantities. When heated to 175° it softens, begins to melt at 181°-188° and at 260° swells up and decomposes. Further heating yields heavy brown, aromatic vapors, which burn, leaving a difficultly but completely combustible residue. The saturated aqueous solution is a clear scarlet red color, which on dilution or in thin layers has a bluish tinge. It is decomposed by nitric acid.

If about 1 mg. of Scarlet R Medicinal, Biebrich, be sprinkled on about 1 Cc. concentrated sulphuric acid it will dissolve in the acid with a bluish-green color, which, on diluting with water, changes consecutively to blue, then to purple and finally red. After a time a brown flocculent precipitate gradually forms.

If to a small quantity of Scarlet R Medicinal, Biebrich, a few Cc. alcohol and 2 drops of concentrated hydrochloric acid be added and the mixture boiled the solution will take on a purple color. This solution on the addition of a few drops of glacial acetic acid becomes scarlet red. If not too small a quantity of the substance was taken it will crystallize out of the acetic acid solution in the form of fine needles.

If about 0.5 Gm. Scarlet R Medicinal, Biebrich, be heated to boiling with ½ Cc. acetic acid and then, while boiling, zinc dust be added, the solution will become colorless. A bluish color appears on exposure of this solution to air.

Actions and Uses.—Scarlet R Medicinal, Biebrich, is claimed to have a marked power of stimulating the proliferation of epithelial cells.

It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc.

Dosage.—It is generally used in the form of an ointment containing 4 to 8 per cent. of the substance.

The surface to be treated is first thoroughly cleaned with warm water and soap and then dried. The ointment is then applied lightly. In ulcers it is spread very thinly over the surface, from the skin edge inward, unless it be very large, in which case the ointment is applied around the edges only. The application may be left undisturbed for two or three days, after which time, and for a similar period, some bland ointment can be used.

Manufactured by Kalle & Co., Aktiengesellschaft, Biebrich a. Rh., Germany (Heilkraft Medical Co., Boston, Mass).

Not patented or trademarked. Sold in the form of ointment only. See below.

Scarlet R Salve.—Scarlet R Salve is a mixture containing Scarlet R Medicinal, Biebrich, Kalle & Co., 8 parts, eucalyptol 2 parts and petrolatum 90 parts.

Prepared by the Heilkraft Medical Company, Boston, Mass.

HORMONAL.—Peristaltic Hormone-Zuelzer.—Hormonal is a liquid extract obtained from the spleen of an animal killed at the height of digestion.

It is prepared by killing the animal, e. g., a guinea-pig, at the time when its digestive process is at the highest point. The spleen is removed, macerated, pressed or extracted with physiologic salt solution or diluted hydrochloric acid. The pressed-out liquid or the neutral extract is then filtered under aseptic precautions.

Hormonal is a yellowish liquid which is often turbid, but the slight flocculent precipitate does not appear to affect its efficiency.

The liquid seems to be stable for at least a year when protected from the light.

Actions and Uses.—It is claimed that the peristaltic hormone has the property of exciting the peristalsis of the intestine and provoking the evacuation of the feces.

It is claimed that Hormonal is useful in the treatment of chronic constipation and as a means of relieving paresis of the intestine in peritonitis and after operation. A prophylactic injection at the time of operation on the abdomen is claimed to be a rational procedure. Its use is still in the experimental stage.

Dosage.—20 c.c. (5 fluidrams) with proportionate doses for children are given by injection, either intramuscular or intravenous.

Manufactured by Chemische Fabrik auf Actien, vorm E. Schering, Berlin, Germany (Schering & Glatz, New York) German patents Nos. 229,168, and 229,169. U. S. Patents applied for.

Hormonal Intramuscular.—A preparation of hormonal containing 0.25 per cent. of beta-eucaine hydrochloride and 0.4 per cent. of trikresol in brown bottles, each containing 20 Cc. intended for intramuscular injection. The injections are sometimes painful, in which case another site should be chosen. The injections are always followed by a rise of temperature. The date of preparation is given on the packages.

Hormonal Intravenous.—A preparation of hormonal containing 0.4 per cent. trikresol furnished in blue bottles for intravenous injection. This is claimed to be useful, especially in cases of intestinal paresis and postoperative ileus. The date of preparation is given on the packages.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

Change of Formula

The manufacturers have revised the formula of Supracapsulin Inhalant by the omission of chloral, substituting for the formula in N. N. R. 1911, page 81, the following.

Supracapsulin Inhalant.—A solution 1:1000 of supracapsulin in an aromatized neutral oil, containing approximately 10 per cent. of alcohol.

Therapeutics

HEADACHES

This most frequent complaint is due to so many causes, is so mistreated when the etiologic factor is not discovered, is so patiently tolerated by a part of mankind, is so impatiently borne and so maltreated by the majority of mankind, and is such a revenue for patent medicine venders, that a better understanding of the condition is imperative.

Half the battle is won in the eradication of a troublesome symptom when the etiologic factor has been discovered. A symptom can be suppressed or combated without a diagnosis, and when a diagnosis has been made of the cause, it may not be possible to remove this cause, but in this case at least a prognosis can be offered, which is the top round of the therapeutic ladder.

The causes of headaches may be divided into several large classes: (1) toxic, (2) circulatory, (3) local, (4) reflex.

TOXIC	LOCAL
Fever	Eye inflammations
Auto-intoxication	Frontal sinusitis
Intestinal	Ethmoiditis
Kidney insufficiency	Ear inflammations
Liver insufficiency	Meningitis
Thyroid disturbance	Exudates into the ventricles
Drugs	Changes in the cerebral vessels
CIRCULATORY	Tumors
Valvular disease	Syphilis
Venous congestion	REFLEX
Plethora	Eye-strain
High tension	Nasal disturbances
Arteriosclerosis	Aural disturbances
Anemia	Facial neuralgias
Leukemia	Uterine displacements (?)
Lung consolidation	
Diminished aeration	

In the majority of the above conditions the headache is only one of many symptoms, and often is not the

thing complained of or the symptom for which the patient comes for treatment. Correction of the general disturbance almost always relieves the headache, and this is true of the headache due to any of the causes in the first and second classes. Anything that removes or corrects the condition in the third class stops the headache.

It is in the fourth class that a failure of diagnosis of the cause is most frequently made, and it is this class that constitutes about 90 per cent. of all cases of headache that come to the physician. In about 10 per cent. of all of these headache patients the cause can be attributed to the nose, teeth, ears, uterus (if there is such a cause of headache), and tic douloureux. In the other 90 per cent. the cause is eye-strain, or eye defect, or ocular trouble in some form. It is for these eye headaches that multiple combinations of acetanilid and other coal-tar products exist. It is on account of these headaches that patent medicine men get rich, that our drug-store counters are covered with nostrums, and that various caffein soda-fountain drinks are offered. It is on account of these headache preparations that many patients, ill with serious disease, are found to have weak hearts, poor nutrition, are perhaps anemic, and have poor recuperative power. These patients will not suffer pain, and even if they would, they must get help to keep about their work. Therefore, the question is, what are we physicians going to do about it?.

EYE-STRAIN REFLEXES

The most constant condition caused by eye-strain is, of course, the headache. This headache may develop slowly or rapidly, may be centered in one eye, one side of the forehead or one side of the head, or may be referred to both eyes. In fact, there is no part of the head that may not ache from eye-strain. Very frequently, however, one eye is more likely to be affected than the other, as one eye is likely to be unlike the other eye and be more defective than the other eye. Astigmatism and far-sightedness, or both, are the most frequent causes of eye-strain headache. Weakness of the ocular muscles is another cause.

The pain is perhaps most frequent in the supra-orbital region, but is often in the temple, and may be frequenty referred to the inner angle of the eye, especially if there is astigmatism. It perhaps occurs very frequently in this region on account of the overactivity of the superior oblique muscle which endeavors to overcome an astigmatic affection. Headaches from defective vision from any reason, and especially when a person becomes presbyopic and has not glasses to correct it, or at least has glasses that are insufficient to correct it, are more likely to be in the occipital region. Such headaches most frequently occur in the early morning, and are discovered by the patient on awaking.

Eyes that are defective as ocular instruments are likely to be inherited; certain kinds of eyes appearing in different members of the family, the children suffering the same defect from which the parents suffered. Such children are likely to have the headaches begin at any age, but perhaps more frequently after a year or more of school work. These headaches are likely to come periodically, perhaps once a week, perhaps once in two weeks, perhaps only once a month, but with a constant tendency to become more frequent little by little. They sooner or later become a megrim, or migraine, which is typically a headache for a number of hours followed by nausea, vomiting, prostration, sleep, and recovery.

The title given to most of these headaches by the laity is "a bilious attack," and the cause is attributed to overeating, eating at night, eating indiscriminately, or is attributed to particular kinds of food, which, if the patient is old enough to decide for himself, are gradually removed from the diet, until almost every kind of food and drink is subjected to more or less suspicion. He then attributes his trouble to his liver, or finds serious fault with his stomach. If he is constipated, he lays it to that, as he finds that after free catharsis, or at least after such a length of time as a cathartic will generally act, the headache disappears. He, therefore, thinks it is due to constipation. Girls and women with these eye defects are more likely to have headache before or during menstruation, and they attribute it to that function. Others learn that they get these headaches when they are overtired mentally or physically. Some soon learn to become suspicious of their eyes on account of having the headache after theater-going, card-playing, car-riding, shopping, sewing, or reading too long, or, if they are office clerks, after an extra amount of proof-reading or of mathematical work.

After the headache habit has once been formed a neurotic element enters into it, and there is likely to be a cyclical headache, even if the eye defect has been corrected, so that a patient who has the headache habit thoroughly formed will always have them more or less, at least until the eyes become presbyopic and focusing for near objects has almost been abolished. It is also true that neurotic patients who are subject to high tension and nervous irritabilities are more likely to have headaches from slight eye defects than are more calm and less nervous individuals.

That these eye defects with their headache sequences are on the increase, is perfectly logical from the overuse of the eyes in the civilized community of to-day. The young child, instead of playing by itself, is shown figures, pictures, objects to put together; and finally come the ill-judged kindergarten eye propositions; it is all eye work, some of it very injurious eye work. Then comes the school with its enormous amount of objective teaching, and only a certain proportion of knowledge is now acquired by quiet personal study, or is acquired through the ears. The major part of education is now pushed in through the eyes by more or less distant object, diagram and picture teaching. To show the modern use of the eyes and their need for light one has only to look at the school buildings of to-day, whose whole sides are windows; to note the enormous amount of light which we all require to do any evening work; to note the excessive glare of light which we like and have become accustomed to as compared with what was called light fifty or even twenty-five years ago. We should also note the greater number of hours that even children, to say nothing of grown people, are up and alert, with eyes never at rest, as compared with those which our grandparents spent in that way.

We are now going one step farther; more eyes must have glasses, and more young eyes must have glasses, and the glass now must be better than it ever was; we must have toric lenses, and those of us who need a bifocal glass must have it ground into one lens so as to have no disturbance whatsoever of almost perpetual vision.

Another cause of eye-tire is the excessive speed of objects to-day. In other words, with the advance in science and civilization, it seems to be the eye that is the part of our bodies that suffers the most.

Like everything else in modern life, the supply must meet the demand, and one has but to count the ever-increasing number of opticians to realize that the world needs glasses. Unfortunately the world does not realize the delicateness and the wonderful constitution of its eyes; therefore, a large part of the world thinks that any optician, traveling or otherwise, can fit eyes to suitable glasses. All the patient is asked to decide is whether he sees better or worse with this or that lens. Undoubtedly an enormous amount of serious damage is done to eyes by ignorant opticians.

It is a mistaken idea, both of physicians in general and of the laity, that optical determinations by oculists are infallible. I do not know of any class of medical work that requires more patience and more good judgment than the decision by an oculist as to just what lenses a person with defective eyes requires. In the first place, the patient is more or less unable to determine accurately when or how he sees the best. In the next place, when the eye is made as immobile as possible with homatropin or some other paralyzant, still there is sufficient mobility to impair accurate judgment as to just what sort of optical instrument the eye is. Even if the defect is absolutely determined, it is then a question of judgment as to whether to give the whole correction, two-thirds the correction, or half the correction to the individual patient. Under any circumstances, he must get used to his lenses, and the eyes will but gradually, except in some instances, accept the help that is given them, and the patient quickly believes that the glasses are wrong. Therefore, the oculist's work is not an exact science any more than is the work of the internist. A patient may go from one oculist to another, and each time receive different lenses; one patient, for instance, went to five different first-class oculists and received five different kinds of lenses. The physician is more to blame than is the patient for the latter's not persisting in going to the same oculist until the lenses suit his eyes. This is much better than to go from one man to another. If every time the internist failed to improve his patient, the patient went to another physician, how sorry would be our practice!

One more fact should be impressed on the patient, and that is, that if an oculist tells him he has astigmatism, the glasses must be frequently adjusted. They must be absolutely straight to correct the meridian of the eye that is abnormal.

A fact that should be impressed on oculists is that a small defect, sometimes so slight that the oculist feels that the patient does not need lenses, may cause more reflex trouble than a serious defect. Also, the amount of trouble that will be caused by an eye defect depends on the individual; nervous, high tension, or neurotic patients have much more reflex trouble than do more phlegmatic individuals, or those who may not be doing high-tension work.

All physicians now more or less recognize recurrent headaches as due to eye-strain, but a large number do not recognize that the patient may have stomach and heart reflexes without headache, and still due to eye defect. Dizziness, gastric indigestion, even nausea and vomiting may occur without any headache whatever and still be due to eye-strain. Cold hands and feet, chilly sensations, faint feelings, palpitation, and irregular heart and pain referred to the cardiac region so as to cause the patient to believe he has heart disease, may be due to eye-strain and be corrected by correcting the eye defect.

If a patient comes to the physician with a headache, or wants to know what he shall do when he has his next headache, what shall we give him? It is often unwise to give him a prescription. Whatever the sedative prescription contains will be repeated and used indefinitely. It is better to give the patient some tablets from the office or from the pocket case, made according to a formula which is satisfactory to the individual physician.

There is nothing more likely to help this kind of headache than acetanilid, and the dose is not necessarily large, and it is well to combine it with bicarbonate of sodium. While caffein adds to the toxicity of the coal-tar product, caffein has a useful action in curing a headache of the eye-strain class. If much of a dose of a coal-tar product is given, the patient should lie down for several hours, if possible. Otherwise, the cardiac depression caused by the eye reflex plus the depression caused by the coal-tar drug will produce faintness and more or less temporary debility. While acetphenetidinum (phenacetin) is perhaps a safer coal-tar drug to use, the dose must be so much larger than the acetanilid dose that the depression is about the same. With some patients antipyrin works the best. With other patients a brisk catharsis is advisable. Some find cold to the head of advantage, although with many it causes nausea. Others find hot applications satisfactory. Sometimes a hot foot-bath will change the circulation sufficiently to relieve the head congestion. Some patients are cold, and some feel hot, and the circulation on the surface of the body is likely to vary depending on the intensity of the pain or the occurrence of nausea.

It is sad to adopt any opium treatment for these headaches. On the other hand, one is often driven by the very intensity of the condition to the limit of medical resources, and sometimes cardiac depression is so serious that it becomes a question of either morphin or large doses of alcohol. Patients who have these terrible megrim attacks frequently cannot well stand coal-tar products so often repeated, as, unless the dose is enormous, the result of their administration is nil. A morphin habit and an alcohol habit, to say nothing of the frequent acetanilid habit or caffein habit, may be acquired on account of eye-strain headaches. The deaths indirectly due to coal-tar products are probably very many, not even to be guessed at. Investigation of the number of headache tablets or powders sold over the drug-store counters shows that the sale is enormous. One firm alone has issued from one small town 2,000,000 acetanilid tablets per month.

Sanatoriums for Tuberculous.—In the campaign against tuberculosis it is perhaps too early to evaluate the numerous methods that have been proposed for lessening or eradicating this disease, writes E. O. Jordan (*Science*, June 2, 1911), but it is already evident that some are more directly repaying than others in proportion to the effort involved. Among the methods for which public funds are legitimately available none is more promising than the provision of sanatoriums for advanced cases of consumption. Newsholme and Koch have shown that the general diminution in the death-rate from tuberculosis observed in most countries can be more reasonably attributed to the establishment of sanatoriums than to any other factor, and that in addition to its humanitarian advantages, the segregation and proper control of the advanced and dangerously infective cases is one of the most useful methods that can be employed by the community to protect itself against the spread of tuberculous infection.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 22, 1911

ARTERIOSCLEROSIS IN THE ANCIENT EGYPTIANS

We are accustomed to ascribe to a high-pressure and altogether modern system of living the prevalence of arterial degeneration and its results, ignoring altogether the lack of any evidence of value that arteriosclerosis occurs earlier or oftener nowadays than formerly. Now comes forward Marc Armand Ruffer[1] to tell us that among those ancient Egyptians who still persist in mummified form, sclerosis and atheroma of the vessels were extremely common. In all respects the lesions which developed three thousand years ago were quite the same as those which exist in modern times, not only macroscopically, but also microscopically, since the degree of preservation of the mummy material still permits histologic study.

The question of foremost interest is: Why did the Egyptians suffer so much from arteriosclerosis, since so many of the supposed causes of arterial degeneration did not exist in their time? Tobacco, which of all things probably is accused most in this connection, certainly was not responsible so many centuries before the American Indian and his pipe of peace had been discovered. That other enemy of the arteries, syphilis, was also unknown in old Egypt, so far as examination of mummy material and varied historical evidence indicate. While alcohol was known and appreciated in Egypt in ancient times, yet Ruffer states that the Egyptians as a race are not and never have been habitual drunkards; furthermore, the influence of alcohol in promoting arteriosclerosis is highly doubtful. As to work and worry it is not easy to draw conclusions, but such time-tables as have been discovered show that the working hours of ancient Egyptians were practically the same as those now in vogue in the same country. Heavy muscular exertion and eating of an excessive amount of meat can also be excluded, according to all the existing evidence, and so we find that in Egypt of bygone days arteriosclerosis was a common condition in spite of the absence of the factors to which we now ascribe this process of degeneration.

1. Ruffer, M. A.: Jour. Pathol. and Bacteriol., 1911, xv, 453.

Possibly we have erred in our ideas of the etiology of arteriosclerosis. In any event, it would seem that the disease is not a new one, and that we cannot correctly ascribe it to newly developed social condition or new tendencies of occupation and modes of living.

"GETTING" DR. WILEY

Those who have followed the history of federal pure food legislation in this country know that whatever of good in this work has been accomplished has been more largely due to the indefatigable efforts of Dr. Harvey W. Wiley than to any other one man, or possibly to any group of men. Dr. Wiley is one of those rare public officials who believe that laws that have been passed in the interest of the public should be enforced in the interest of the public. And he not only believes it, but he acts on it.

It is probably no exaggeration to say that no law that has been placed on the federal statute books in recent years has been enforced with the same energy and freedom from favoritism as has the federal Food and Drugs Act of June 30, 1906. It is a regrettable fact that the sympathies of Dr. Wiley's superiors in the Department of Agriculture have always seemed to be in the direction of those interests that have amassed fortunes by adulterating drugs and doping the food-supplies of the country.

If the pure food law has been a powerful instrument wielded in the interest of the people instead of a musty dead letter on the statute books, it is because the chief of the Bureau of Chemistry—Dr. Harvey W. Wiley—has made it so. He has made it so in the face of opposition such as cannot be conceived by those not acquainted with the actual facts. And that opposition, to the shame of the government be it said, has not come exclusively from outside sources.

While it is only one of the fights that Dr. Wiley has had to wage against vested wrongs, the sodium benzoate controversy was possibly the best known and most sensational. As a result of the knowledge gained from a series of experiments, Dr. Wiley held that, under the Food and Drugs Act, the addition of this chemical to foods should be deemed adulteration. The interests affected at once brought pressure to bear at Washington, and were able, through an autocratic use of executive power, to bring into existence a body whose function was to pass on the various findings of Dr. Wiley. This body was technically known as the Referee Board of Consulting Scientific Experts, a title which has been colloquially shortened to "Referee Board." Pending the decisions to be handed down by this board—and, apparently, it may be years before the final one is given—Secretary Wilson gave permission for the use of such

chemicals as sodium benzoate, saccharin, copper sulphate, etc.

The decision of the Referee Board on the sodium benzoate question is now history. It was that sodium benzoate "in small doses" is not harmful. On the strength of these findings, Dr. Wiley's superiors gave the manufacturers permission to use sodium benzoate not only in "small doses," but in any quantity they saw fit, requiring only that the amount of this chemical they found it convenient to use should be stated on the label!

On the question of saccharin, the Referee Board upheld Dr. Wiley in his contention that it was deleterious to health. The Department of Agriculture thereupon declared that after July 1, 1911, all saccharin-containing foodstuffs should be declared adulterated. Again the food adulterators protested. Then the Department of Agriculture, with its fine sense of justice to the interest of manufacturers and its equally fine indifference to the interests of the public, at once extended the period of probation for saccharin until May 1, 1912. Probably before that date arrives another extension will be granted.

These points, which have been discussed in THE JOURNAL before, are merely recalled to make clear the enormous handicap under which Dr. Wiley has been placed in his attempt to enforce the Food and Drugs Act in the public's interest. If space permitted, it might also be well to recall the high-handed way in which the Secretary of Agriculture, after his conversion to the benzoate camp, brought to bear the enormous influence and prestige of his department in jamming through the convention of the Association of State and National Food and Dairy Departments a set of resolutions endorsing the report of the Referee Board on the use of sodium benzoate. Reference might also be made not only to *Collier's* statement that Vice-President Sherman showed great solicitude for the Duffy Malt Whiskey concern when Dr. Wiley's subordinates were investigating it, but also to the allegation that Mr. Sherman's son is financially interested in the firm of catsup makers that was chiefly responsible for the creation of the Referee Board.

Enough has been said, however, to make clear to the reader how onerous Dr. Wiley's position has been. Now comes the report from Washington that Dr. Wiley's enemies have at last found a technical point on which they can ask for his dismissal, and of course, they are playing their hand for all it is worth. Briefly, the charge against Dr. Wiley is that he employed a pharmacognosist of national standing, Dr. H. H. Rusby, in such a way as technically to violate the rules of the department. Dr. Rusby held his services at $20 a day. Under a law recently passed an expert can be hired at a salary not to exceed $11 a day. Dr. Wiley, believing that the public's interest were best conserved by having the services of a big man for part of the time rather than the services of a second-rate man all the time, recommended that Dr. Rusby be employed for so many days during the year, that the maximum salary permitted by the department would total the minimum remuneration that would be accepted by Dr. Rusby. This agreement was not made privately, but had been taken up by Dr. Wiley with his superiors and apparently agreed to by them. Now Dr. Wiley's action in this matter has been passed on adversely by what is referred to as the Committee on Personnel, a committee composed of men who are known to have been open antagonists, if not actual enemies, of the chief of the Bureau of Chemistry. Attorney-General Wickersham—another gentleman whose solicitude for the "interests" is well known—recommends that the President approve the dismissal of Drs. H. W. Wiley, W. D. Bigelow and H. H. Rusby and the reduction in rank of Dr. L. F. Kebler, who for years has been Dr. Wiley's able and energetic assistant.

At the time of writing, President Taft has made no official move in the matter and it is said to be the opinion in official circles at Washington that probably the President will merely reprimand Dr. Wiley for his technical error. The country awaits with interest President Taft's action in this matter. From the standpoint of public interest there can be no question that Dr. Wiley's services should be retained. President Taft, in deciding this case, has it within his power to administer a stinging rebuke to the food dopers and "patent medicine" makers and to those officials at Washington who are more concerned with private gain than they are with public health.

COOPERATION OF TEACHER AND PHYSICIAN IN DEVELOPING BETTER CITIZENS

That a deeper sense of the responsibilities and obligations of citizenship must be inculcated in the young, and that a healthy mind, a necessity for wholesome citizenship, cannot be built up on a defective body, are statements on which stress was laid at the recent meeting of the National Educational Association at San Francisco. On the home and the school largely rests the responsibility for the first condition, and, it was emphasized, to the physician, authorized and supported by the parents, the public must look for the teaching and the measures to overcome the physical defects and the inimical surroundings which lead to delinquency and bad citizenship, or to downright criminality. On the cooperation of these two agencies depend the most far-reaching results to society and to the nation.

In a vigorous arraignment of the materialistic tendencies of the present day, which appal by reason of the utter carelessness and thoughtlessness of the rights of

individuals, and deploring the general lack of discipline and regard for law in the scramble to secure wealth and to gratify selfish ambitions, Mrs. Emmons Blaine laid the responsibility for these things on the defective methods of our schools and on the teachers, "whose opportunity is the heart of the whole subject." The development of the commercial spirit has extended too largely even to the schools, with inevitable resulting deterioration in the quality of work done and a consequent lowering of the moral standards of scholarship and of citizenship. She sees in this even a menace to our nation, and feels that as a representative government we have not altogether made good to our forefathers, to the world and to ourselves. But, she says, the citizens of tomorrow are all in the hands of the teachers before materialism grips them by the throat. And what possession, she asks, other than our children do we treat so carelessly? There is no higher ambition and no more important duty than that of making good citizens.

Another essential step in the development of good citizens is the correction of physical defects in the children and the raising of the general standard of health to the highest point. To this end a committee has been appointed by the Section on Preventive Medicine and Public Health of the American Medical Association to confer with a like committee of the National Educational Association, of which Dr. David Starr Jordan is chairman, in a broad investigation of health conditions which prevail among children in large cities, and of adolescent ailments which have a direct bearing on education. This investigation includes, further, the more active cooperation of boards of education and departments of health to reduce child delinquency and crime. Dr. W. A. Evans, chairman of the first-mentioned committee, speaking at the same meeting, said that study of the health conditions of the school children of our large cities and movements to improve that health were as vital in the work of education as any of the theories of education. It is also vital in the work of medical research. Without doubt, a large share of child delinquency is directly traceable to adolescent ailments, and their elimination by timely medical attention meets with an immediate reduction in delinquency and crime among the young.

The work of the school, on the one hand, is to endeavor to build up character and greater respect for authority and obedience to the law of the land, to inculcate greater regard for the rights of others, and to combat the selfish materialistic tendencies of the times. That of the medical profession, on the other, is to endeavor by scientific means to remove all remediable physical defects and to establish satisfactory hygienic and sanitary conditions. It may, therefore, be believed that these two agencies, cooperating in the proper spirit, should be able largely to overcome the defects of our citizenship of which Mrs. Blaine, Dr. Evans and many others justly complain.

THE ARGUMENTS AGAINST CREMATION

Probably the main objection to cremation has hitherto been religious. Yet we believe that there are to-day many clergymen who consider this method to be not contrary to divine law, but preferable to burial. Indeed, in the light of the beautiful Pauline statement, read in Christian services, that, "there is a natural body and there is a spiritual body," it is difficult to find in cremation anything contrary to Christian precept. It is the natural body which material nature must separate and return into its elements, whether this be done by the slow process of decomposition in the grave, or by the more rapid combustion on the funeral pyre. In very truth human living, in its physical aspects is, from the cradle to the grave, a continuous process of combustion; cremation, at its end, is only the same process concentrated within a few minutes of time.

But one other objection to cremation remains—that of the facility which it is assumed to afford criminals for the concealment of the means employed for murder. While the theoretical existence of such a danger must be admitted, practically, under proper precautions, it is probably almost infinitesimal, or at least negligible. In every suspicious case (however slightly so) the coroner or the equivalent legal officer can require an autopsy, with the removal of parts or the whole of organs and their preservation for examination, in the event of alleged poisoning. If these measures seem inadequate, additional safeguards could be established. For example, it might be provided that, as in England, no one might be cremated until two independent death certificates have been made by medical men. In the event of doubt, necropsy should be provided for and viscera would, if necessary, be preserved. Post-mortem examination should be prescribed as a routine procedure in certain instances, as in the cases of persons dying in public institutions and those dying under the custody of others than their natural guardians.

While there are no conclusive objections to cremation, there are positive reasons against burial. Cremation affords a clean and rapid disintegration, while burial is a slow process, most repugnant to any imagination that would dwell on it, and inspiring much occasionless fear of death. Burial is also dangerous to the living, emphatically so when the death has been by reason of a contagion and especially in graveyards adjacent to human habitations. For sparsely settled regions this consideration is not so powerful; but under modern living conditions—when so large a proportion of humanity lives in cities, when so many rural districts become suburban, which in their turn almost as rapidly become urban—the cleaner, more wholesome and more esthetic method of cremation should obtain. The possibility of contagion becomes thus more and more necessary to consider, as districts become congested to a degree surely unprecedented in human history. Many varieties of pathogenic bacteria, transferred by the dead to their graves, multiply

inconceivably in the earth. How great a danger is this to the living whose dwellings are near those graves!

Our spreading civilization ruthlessly claims for its economic purposes patches of land hitherto sacred to the dead. No sentiment here! Is it in consonance with the religious sense to see huge factories and tenements towering above and overshadowing little cemeteries, whose dwellers are of other and forgotten centuries? Does it conform with the reverent mood to see workmen, while excavating for the foundations of mercantile buildings, dig up churchyard slime and toss away the bones of long-forgotten dead? Thus, there is not only a hygienic, but also an economic objection to burial. It would be useless to inquire here as to the propriety of the latter; we may but record that it exists and is insurmountable. The acreage in and about large cities now devoted to cemeteries is enormous; the earth now sanctified will certainly in time be desecrated. The crematory is thus the only solution.

Current Comment

AN INVESTIGATION WELCOMED

Since the publication of the charges made against Dr. Wiley by his official enemies, Congress has taken a hand in the affair and an investigation of all the facts leading up to the present episode has been called for. No one will welcome such an investigation more than will Dr. Wiley, unless it is the general public. But it must be an investigation and not another official whitewashing. A real investigation will show several things. It will show, for instance, that Dr. Wiley made powerful enemies when he ruled against a mixture of crude alcohol and a small amount of real whisky being labeled "whisky." It will show that he incurred enmity when he declared that inferior wheat was adulterated when it had been bleached by chemical process to resemble a high-grade product. It will show that he aroused violent antagonism when he protested against the use of such chemicals as sodium benzoate, saccharin and copper sulphate in foodstuffs. It will show that he made an implacable foe of the glucose trust when he protested against its product being sold under the misleading and euphemistic name, "corn syrup." It will show, also, that he set in motion a tremendously powerful and vicious organization when he exposed the frauds and dangers inseparable from the "patent-medicine" business. All this it will show, and much more, that Dr. Wiley has done in the interest of public health and safety. Then, too, if it is a real investigation, we may learn why the hundreds of thousands of dollars that have been spent on the investigations by the Referee Board should have come out of appropriations intended for the enforcement of the Food and Drugs Act. We may learn why, although it is illegal to pay a pharmacognosist more than $11 a day when acting as an expert for the government, legal experts for the government may be paid as high as $150 a day—out of "contingent funds"! We may learn why the cases which were started by Dr. Wiley's assistants against the Duffy Malt Whiskey outfit have been held up for years by his superiors and have not yet come to trial. It may show, although we are hardly optimistic enough to believe that it will, what relationship there is between the Vice-President of the United States and the Duffy Malt Whiskey interests. It may show why two small-calibered men were put in a position of equality with Dr. Wiley so as to handicap his aggressiveness in the public interest. It may show a number of other things—providing it is a real investigation. One thing it will show, and that is that Dr. Harvey W. Wiley has been standing alone, fighting the people's fight for pure food and pure drugs, abused, maligned, and vilified by special interests, and receiving little support from his official superiors. And by the time the investigating committee is through with its work Dr. Wiley's position before the country will be strengthened, while the machinations of his enemies will have been exposed.

THE DEATH OF SENATOR

We chronicle this week the death of one of the most eminent clinicians in modern medicine, Professor Senator—at once a practical physician, an able teacher and an indefatigable investigator. Germany has lost one of her master minds in medicine. His many-sided learning is indicated by the number of his works covering various departments of medicine. While his devotion to general medicine led him at one time to decline the directorship of a children's clinic on the ground that he wished to be a physician, not a specialist, nevertheless he distinguished himself in some of the most specialized branches of medicine. He early turned his attention to legal medicine, and some of his works in this branch, especially on the changes after death from chloroform poisoning, are models of research. Later he also devoted much study to skin diseases, and still later to physiology and pathology, and especially to the pathology of metabolism, which led to the production of his most important writings, those on albuminuria, kidney diseases and diabetes. In July, 1910, on account of advancing age, at the same time as the venerable Olshausen, he resigned his professorship in Berlin University. He was one of those virile minds that have long made Germany the Mecca in medicine for the students of the world. Few men have made such an impression on two generations of postgraduate workers as has Senator, and his genial interest has been a stimulus to scientific achievement in other countries besides his own.

THE LETTER OR THE SPIRIT OF THE LAW?

The straits to which Dr. Wiley's enemies have come in their attempt to have him removed from his position are best realized by those familiar with official methods in Washington. He is accused of technically violating the law regarding the payment of salaries. As several newspapers have said, technical violations of this sort are of daily occurrence in Washington. The creation of the Referee Board, which was brought into existence to pass on Dr. Wiley's findings, was probably a technical violation of the law. It is still an open ques-

tion whether that board has any legal existence. When Attorney-General Wickersham was asked for an opinion on the matter, it is said that he turned the problem over to his assistant, James M. Fowler, for investigation. It is asserted that Mr. Fowler, after a careful examination, held that the Referee Board had no legal existence, but that Attorney-General Wickersham disregarded Mr. Fowler's opinion and the matter was referred to the solicitor of the Department of Agriculture, George P. McCabe. McCabe, it is alleged, prepared another opinion declaring the Board legal. McCabe, by the way, with F. L. Dunlap constituted, with Dr. Wiley, the Food and Drugs Inspection Board. It has long been understood that McCabe and Dunlap were put on this board for the purpose of restricting Dr. Wiley's activities as greatly as possible and rendering him a mere figurehead. It is well-known that both Dunlap and McCabe have, either openly or secretly, antagonized Dr. Wiley whenever possible. It was Dunlap who, dressed in brief authority as Acting-Chief of the Bureau of Chemistry, and in the absence of Dr. Wiley, preferred the present charges against his chief. McCabe was one of the three members on the Committee on Personnel which have recommended —with Wickersham's approval—Dr. Wiley's dismissal. Possibly Dr. Wiley is technically in the wrong and probably Wilson, Wickersham, McCabe and Dunlap are technically in the right. It is the letter of the law that kills! This much is certain, Dr. Wiley's enemies, both in and out of the government service, have been watching for years for an opportunity to find something out of which they could make a "case" and this trivial technical charge is the worst that can be brought against him. As the public learns the facts, it will perforce hold the opinion that the hawk-like vigilance of Dr. Wiley's official antagonists could have been better employed in detecting the crimes against the public health than in trying to hamper, harass and badger an aggressive, honest and efficient public servant.

OBTAINING MONEY UNDER FALSE PRETENSES

The case of John J. Arberry, the California quack, who, conducting a "medical institute" under the name "Dr. Taylor & Co.," was convicted of obtaining money by false pretenses, was related at some length in THE JOURNAL, January 29, 1910. This case was of interest because of several unusual features connected with the prosecution. Arberry tried to obtain money from a young man, who had come in from the country, by falsely telling him that he was suffering from a valvular disease of the heart. Arberry's defense was that he had made a mistake in diagnosis and that all physicians may disagree in such matters. Mr. Walter Kaufman, the attorney who was prosecuting the case, however, held that this was a matter of fact and not of opinion; a contention that the court upheld. So vital to the quack fraternity were the points raised in this case that their San Francisco members were said to have raised a purse of $25,000 to fight the case. Nevertheless, Arberry was found guilty. Of course, he appealed; the decision of the court of appeals is given at some length in the Medicolegal Department of this issue. The appellate court affirmed the judgment of the lower court, convicting Arberry of obtaining money by false pretenses. Moreover, the Supreme Court of California denies a rehearing. It will be appreciated, of course, that Arberry was not tried for practicing without a license—the usual way of attempting to check these impudent frauds—but for obtaining money under false pretenses. THE JOURNAL has heretofore suggested that this method is much more advisable, and will more readily appeal to the public, than prosecuting a man for the practice of medicine without a license. As a matter of fact, most of these advertising quacks do have licenses, and hence are proof against prosecution so far as this is concerned. Few of them, however, are proof against the charge of obtaining money under false pretenses. As we remarked once before, the important point is that under such charges the quack becomes a common felon. While the layman may experience difficulty in recognizing the danger of quackery *per se*, he finds no such obstacle in a case of plain robbery. The average man is perfectly willing to play fast and loose with his health, but he objects to any such harsh treatment of his purse. Let the public once realize that quackery and robbery are usually synonymous, and the outcome of legal action instituted against quacks may be safely predicted.

Medical News

ARKANSAS

Typhoid in Little Rock.—Following an appeal to the federal authorities in Washington for aid in controlling an epidemic of typhoid fever in Little Rock, the Governor has been advised that Passed Assistant Surgeon W. H. Frost, U. S. P. H. and M.-H. Service, is on his way to make the required investigation.

Personal.—Dr. James H. Lenow has been elected dean and Dr. Joseph P. Runyan, vice-dean, for the consolidated medical departments of the University of Arkansas, and Dr. Charles S. Holt, Fort Smith, has been elected professor of operative surgery.——Dr. R. R. Dinwiddie has resigned as city physician of Fort Smith.

State Board Appointments.—The Governor has announced the following appointments to the State Board of Health: First district, Dr. Octavius L. Williamson, Mariana; second district, Dr. Thomas I. Stout, Brinkley; third district, Dr. Asbury J. Vance, Harrison; fourth district, Dr. J. Gilbert Eberle, Fort Smith; fifth district, Dr. Robert L. Smith, Russellville; sixth district, Dr. Charles Dake, Hot Springs, and seventh district, Dr. E. R. Rowland, El Dorado.

Medical Schools Consolidated.—It is reported that the College of Physicians and Surgeons of Little Rock has been merged with the Medical Department of the University of Arkansas and that the consolidated school has been accepted by the Board of Trustees of the State University as an integral part of that institution. This is in accordance with an act passed by the last legislature providing for the development and support of the Medical Department of the University of Arkansas.

CALIFORNIA

Personal.—Dr. Joseph M. Toner has been appointed coroner of San Francisco County, vice Dr. William J. Walsh, deceased, and Dr. Max E. Magnus has been appointed autopsy surgeon. ——Dr. Francis H. Mead has been reelected health officer of San Diego.

College to be Hospital.—The committee on grounds and buildings of the University of California has been given power to have alterations made in the Los Angeles Medical Department structure to fit it for hospital uses. The legislature has made an appropriation of $25,000 for this purpose.

State Sanitation Car.—The state sanitation car which has already traveled more than 10,000 miles in California, diffusing valuable information to the public on preventable diseases,

and which was on exhibition in Los Angeles during the meeting of the American Medical Association, is continuing its tour of the state, going north over the Coast Line.

Lane Medical Lectures.—The Lane Medical Lectures, founded in 1896 by Dr. Levi Cooper Lane, San Francisco, consist of "a free course of lectures on medical subjects by men distinguished at home or abroad for their work in either medicine or surgery and are intended for medical students and the medical profession at large." For this year the directors of Cooper Medical College have invited Dr. Ernest Fuchs, professor of ophthalmology in the University of Vienna, who will deliver ten lectures between August 21 and 25. The subjects are: "Operations on the Eye," "The Eye in Tabes" (two lectures), "Trachoma," "Tumors of the Eye," "The Eye in Brain Affections" (two lectures), "General Symptomatology," "Corneal Ulcers" and "The Anatomical and Functional Development of the Eye from Its Lowest to Its Highest Type Through the Animal Kingdom." The lectures will be delivered in English in Lane Hall, San Francisco, and will be fully illustrated and members of the medical profession are invited to attend.

ILLINOIS

New Hospital Staff.—The following members of the staff of Julia F. Burnham Hospital, Champaign, have been reappointed: Drs. Cassius M. Craig, William E. Schowengerdt, William L. Gray, Clyde D. Gulick, J. F. Mason, William M. Honn, Charles H. Spears, Jennie Lyons, Albert S. Wall, Cyrus F. Newcomb, Otis O. Stantley and A. Darwin Kirby.

Personal.—Dr. Frank P. Norbury, superintendent of the Kankakee State Hospital, has resigned and after spending some time in the East in study will take up practice of his specialty in Illinois.——Dr. Arthur E. Rogers, Bloomington, who has been ill at St. Joseph's Hospital, is reported to be convalescent.——Dr. Seymour H. Woodworth, Park Ridge, sustained a serious cut of the leg in an automobile accident near Lake Zurich, July 7.

Sanitary Appropriations.—The appropriations of the State Board of Health for sanitary purposes were increased by the General Assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately it is specified in this last appropriation that no part of the sum shall be expended for legal services.

State Board of Health Handicapped in Prosecutions.—The recently enacted law, in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fees, fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice acts in the several counties of the state. Suits must be brought hereafter through state's attorneys, few of whom instituted prosecutions in the past, even when paid the fines collected. It is believed that none will do so in the future, when the fines are to be turned into the state treasury. The State Board of Health fears that under the conditions now existing, the state will be overrun with unlicensed practitioners, who will practice in defiance of the law.

Chicago

Typhoid Carrier Isolated.—Miss Rose Boersma, who is said to be responsible for the recent epidemic of typhoid fever in Englewood, has been isolated at the home of her uncle in Morgan Park and will be kept under medical care until all risk has disappeared.

Upholds Pure Food Act.—The pure food and drugs act was declared to be constitutional by Judge Landis, June 22, when he overruled the demurrer of three ice-cream companies, which had been indicted on the charge that they were selling ice cream which contained impurities.

Bequests.—By the will of the late Sylvester T. Smith, $2,500 is bequeathed to the Alumni Association of St. Luke's Hospital.——By the will of Mrs. Nannie Loewenthal, $3,000 is bequeathed to Michael Reese Hospital and $1,000 each to the Chicago Lying-In Hospital and Dispensary, and the Alexian Brothers' Hospital.

New Hospitals Open.—The Columbus Extension Hospital at Polk and Lytle Streets was opened with impressive ceremonies July 10. The new hospital is a branch of the Columbus Hospital.——The West Side Physicians' Club, in memory of Dr. Nicholas Senn, has established and opened a charitable free dispensary, to be known as the Senn Polyclinic, at 740 South Loomis Street. The dispensary has sixteen departments and will be open both days and evenings.

Personal.—Dr. Oren J. Waters is seriously ill in Passavant Hospital with septicemia, due to an operation wound.——Dr. Edwin R. LeCount has been appointed coroner's physician of Cook County, vice Dr. Henry G. W. Reinhardt, resigned, to become statistician of Cook County Hospital.——Dr. John E. Siebel, Jr., has sailed for Europe.——The summer home of Dr. George F. Fiske, at Lake Forest, was destroyed by fire July 12.——Dr. George J. Spencer has been appointed city physician and Dr. Max A. Weisskopf a member of the bridewell board.——E. E. Palmer, for twenty-seven years secretary of Truax, Greene & Company, died at his home in Oak Park, July 9, aged 48.

Louisiana Health Exhibit Car.—The health exhibit car of the Louisiana Board of Health, to which we have referred before, arrived in Chicago, July 18, and was on exhibition at the Illinois Central Station, Park Row, for two days. The train was on exhibition at Los Angeles during the meeting of the American Medical Association, then went to San Francisco and has made fourteen stops for exhibition en route and six dates are to be filled between Chicago and New Orleans. The train is under the personal charge of Dr. Oscar Dowling, president of the State Board of Health. The burden of this movement is pure food, pure drugs, better doctors, cleaner homes and higher health standards.

KENTUCKY

Louisville Water.—A report has been made by the Louisville Water Company which shows 26,742,551 gallons of water were used each day during the month of June. The daily analysis of water showed the average number of bacteria before filtration was 850 per c.c. and 120 per c.c. after filtration.

Personal.—Prison Physician Richard H. Moss narrowly escaped death by electricity during the first electrocution under the new state law at Eddyville July 8.——Dr. Thomas J. Morgan has been reelected medical inspector of the schools of Covington.——Dr. J. T. Tichenor, Waterford, is reported to be seriously ill as the result of heat exhaustion.——Dr. W. Hamilton Long, Louisville, has been commissioned first lieutenant in the medical corps of the state and has been assigned to the First Infantry.——Dr. and Mrs. Edward Spiedel, Louisville, celebrated their silver anniversary at the Seelbach, July 6.

State Board Meeting.—At the meeting of the State Board of Health at Louisville July 12 the chief topic of discussion was the result of the campaign of the board to improve the water supply of the state and prevent its contamination by slop from distilleries. The board is planning to get data to make maps of the water supply of the state as a preliminary movement for the betterment of the water supply and to make tests of the water in various streams in the state to determine its purity and where it is found necessary to improve conditions by making changes in the drainage, building ditches and other methods.

MAINE

Personal.—Dr. and Mrs. Adam P. Leighton, Jr., Portland, leave for Europe early next month.——Dr. Frank W. Searle, Portland, has been reappointed a member of the Board of Registration in Medicine.

Faculty Changes.—In the Medical School of Maine the following changes in the faculty have been made by the resignation of Drs. Alfred Mitchell and Frederick Henry Gerrish: Dr. Addison S. Thayer has been elected dean and professor of medicine and Dr. Alfred King has been placed in charge of the department of surgery. Dr. Ambrose H. Weeks has been elected instructor in medicine, Dr. Fred P. Webster, lecturer on diseases of children, and Dr. James E. Keating, assistant professor of medicine.

MARYLAND

Personal.—Dr. Eugene L. Crutchfield, Baltimore, was given the honorary degree of A.M. by St. John's College, Annapolis, recently.——Dr. Clarence E. Downs, Baltimore, has been made health warden of the eleventh ward, vice Dr. Nathan E. B. Iglehart.——Dr. A. L. Blessing, Brownsville, was severely injured in a runaway accident June 27.——Dr. George Heller, who has been ill in St. Joseph's Hospital, Baltimore, for several weeks, is reported to be improving.

MASSACHUSETTS

Scholarship Established.—By the will of Frank Dunlap Frisbee, who died in Newton, May 16, a scholarship is provided for at Harvard Medical School, to be known as Jesse F. Frisbee Scholarship, to be given to "poor and deserving students."

Doctors' Club Elects.—The Attleboro Doctors' Club held its annual meeting June 13 and elected the following officers: President, Dr. Joshua W. Clarke; vice-president, Dr. Wilfred F. Milot, and secretary and treasurer, Dr. George E. McPherson.

Personal.—Dr. and Mrs. David D. Johnson, Boston, sailed for Europe July 2.——Dr. Joseph P. Murphy, Brookline, has been appointed assistant to the chief of the child hygiene division of the Boston Health Department.——Drs. Thomas H. O'Connor, Roxbury, and Joseph H. Devenny, Dorchester, have been appointed ward physicians of Boston.

MICHIGAN

Gift to Tuberculosis Fund.—Mr. E. C. Mershon has presented the Saginaw Antituberculosis Society with a check for $1,000.

Fire in Hospital for the Insane.—The dining-room and kitchen of the State Hospital for Insane Criminals, Ionia, was destroyed by fire July 5, causing a loss of $50,000. No casualties occurred.

Annual Clinic.—The sixth annual clinic of the Detroit Boulevard Sanitarium, given under the auspices of the board of directors, Dr. Edgar B. Smith, William J. Stapleton, Jr., and A. L. French, and Hon. Frank T. Lodge, was held July 10 and 11, 14 and 15.

Health Board Exhibits.—The special train, a part of which contains the exhibit of the Michigan Agricultural College, Lansing, and two cars of the State Board of Health exhibit, will leave Lansing August 1 on a twelve-day tour of the state. The State Board exhibition will be in charge of Dr. Robert L. Dixon and two other officials of the department.

Personal.—Dr. Ralph E. Balch, Kalamazoo, has been severely ill with septicemia.——Dr. James C. McGregor, Flint, was operated on recently for appendicitis in a hospital at Los Angeles, Cal.——The University of Michigan has conferred the honorary degree of Doctor of Public Health on Dr. Guy L. Kiefer, health officer of Detroit.——Dr. Flavius J. Knight, Charlotte, was stunned and burned by a lightning shock recently.——The office of Dr. Charles F. O'Neill, Middleton, was destroyed by fire recently.

MINNESOTA

Baby Welfare Association.—The St. Paul Baby Welfare Association was organized July 3, and was attended by physicians, society workers and other citizens. Dr. Justus Ohage was elected president, and Drs. Walter R. Ramsey, Dr. James T. Christian and Jennette M. MacLaren were elected members of the board of directors. The society will establish a clinic and milk laboratory in charge of a competent nurse and will become a branch of the National Association for the Prevention of Infant Mortality.

County Medical Society Meets.—The forty-third annual meeting of the Wabasha County Medical Society was held at Plainview, July 6. The following officers were elected: president, Dr. Michael J. Shaughnessy, Wabasha; vice-president, Dr. Walter W. Nauth, Minneiska; secretary and treasurer, Dr. William F. Wilson, Lake City; delegate to the state association, Dr. Emery H. Bayley, Lake City; alternate, Dr. Dormic P. Dempsey, Kellogg, and censor, Dr. William T. Adams, Elgin. It was voted to hold the next annual meeting at Lake City.

Personal.—Dr. Hibbert Winslow Hill, director of the division of epidemiology of the Minnesota State Board of Health, received (by examination) the diploma of public health of the University of Toronto, at the recent commencement, June 9. Dr. Hill graduated from Toronto University in 1893 with honors and a postgraduate scholarship, receiving the degree of M.B., which is the only degree granted by the Toronto University in graduation of medicine. In 1899 he received the degree of M.D. together with the Starr gold medal, the latter awarded for a doctor's thesis on "Relation of Bacteriology to Public Health." The diploma of public health just granted is the first given by the University of Toronto, although the course has been open and the degree available for several years.——Dr. Arthur W. Shaleen, Hullock, has returned from Europe.——Dr. Herbert O. Collins, formerly city physician of Minneapolis, has been elected superintendent of hospitals of that city.

MISSOURI

Personal.—Dr. Walter S. Wheeler has been reappointed health commissioner of Kansas City with an increase of salary.——Major Oliver C. Gebhart, M.C., N.G.Mo., in charge of the field hospital, has been appointed chief surgeon, vice Dr. Daniel H. Morton, St. Joseph, resigned.——Dr. William R. Schaefer, Columbia, who was operated on for appendicitis July 1, is reported to be making satisfactory progress toward recovery.

St. Louis

Barnes University Assigns.—It is reported that William G. Schofield, St. Louis, has been appointed assignee of the Barnes University property. The indebtedness of the college is said to be about $218,000 and the assets about $87,000. Two mortgages on the property are outstanding; one, which is for $45,000, covering the university and hospital, and the second mortgage for $40,000 on the hospital, guaranteed by the university to secure an issue of bonds made by the hospital. The university corporation has outstanding about $65,000 in unsecured claims and $3,500 of floating indebtedness. The hospital, which is a separate corporation, has about $4,500 floating indebtedness. A reorganization of Barnes Medical School with the state university has been considered, but without any tangible result.

NEW YORK

Personal.—Dr. Edwin Fancher, Middletown, while making a call to inquire into the sanity of a patient, was shot at three times by the patient, but fortunately escaped injury.——Dr. Robert B. Lamb, medical superintendent of the Matteawan State Hospital, has resigned.

New York City

Bequest.—By the will of Miss Adele A. Dortic, the Presbyterian Hospital will receive $100,000, and the New York Infirmary for Women and Children, $2,000.

New Dispensary Dedicated.—The new home for the Ladies' Hebrew Dispensary, Brooklyn, was dedicated July 3, and a fair was opened which was continued during the entire week for the benefit of the institution.

Training School for Midwives.—The trustees of Bellevue and Allied Hospitals have opened a training school for midwives. No civil service examination is required for entrance, but a knowledge of foreign languages is very desirable. The teaching will be under the direction of a resident and an assistant resident obstetrician.

Decrease in Infant Death-Rate.—From July 1, when the intense heat began, to July 15, 706 babies under 1 year of age died in this city as compared with 1,006 for the first two weeks in July of 1910. For the week ending July 15, there were 359 deaths of infants under 1 year of age, as compared with 568 for the same week in 1910. The health department believes that the concerted action of the many agencies employed in combating infant mortality are largely responsible for the decreased death-rate.

Appointments to Board of Inebriety.—The Board of Inebriety authorized by the legislature in 1910 was brought into being on July 11 when the mayor appointed seven members to serve on this board; two physicians, Dr. William G. Browning, Brooklyn, and Dr. John Dorning, New York, and two clergymen. The law requires that the board shall consist, in addition, of the commissioner of charities and correction, ex officio, and one layman. All male persons arrested for intoxication will come under the influence of the board. An industrial colony which will provide the opportunity for permanent reformation is being planned.

The Cholera Situation.—Despite the precaution made by the health officer of the port of New York there have been five deaths from cholera and eighteen cases of the disease among immigrants who arrived July 5 on the *Moltke*. Out of the five, one died at Auburn, N. Y., one at Brooklyn and the other three at the Swinburne Island Hospital. There are at present eighteen patients with cholera, all of whom are reported to be convalescent. The task of examining the 600 immigrants who arrived on the *Moltke* and *Perugia* was begun July 17. The first native case of cholera ended July 13, in the death of a night watchman at the quarantine station. He was ill for three days before the case was diagnosed as cholera on the day before he died.

Temperature of Milk.—The health commissioner in his press bulletin of July 13, makes public the plan of the department to keep milk at a low temperature as it comes into the city. A schedule was first arranged that two inspectors were detailed

to inspect milk at thirteen points at which it comes into the city. Under the present arrangements each inspector is detailed to night work once in about eight days and each receiving point is thus inspected about once in two weeks. During the recent extremely hot weather an additional number of inspectors was detailed to inspect the milk especially in regard to temperature at the receiving points as well as on the delivery wagons. Four to eight were thus detailed each night during the hottest week of the year. The highest temperature of 888 specimens examined was 49 degrees. On the hottest days 718 specimens were examined and of these seventy-eight were found to be above the temperature of 50 degrees. In addition to this work two inspectors have been detailed each week to inspect milk delivered on wagons to retail stores, and it is found that this milk is almost always kept below the temperature required by the health commissioner. The inspection of milk in retail stores shows almost universally that the cans are surrounded with ice in ice-boxes or tubs while the milk is on sale. On June 16, special investigation was made on milk on sale in retail stores and out of 253 inspections only 156 quarts were found to be above the legal temperature, and this milk was destroyed. The commissioner furthermore calls attention to the necessity of refrigerating milk on account of the enormous increase of bacterial content with high temperature.

Buffalo

Personal.—Dr. F. Park Lewis has been reappointed commissioner for the State School for the Blind, Batavia.——Dr. Arthur R. Gibson has resigned as milk inspector.

To and From Europe.—Drs. John M. Snow, Matthew D. Mann, Cornelius J. Carr, James L. Gallagher, William H. Billings and George A. Himmelsbach have sailed for Europe, and Dr. George J. Haller has returned from abroad.

Academy Meeting.—At the annual meeting of the Buffalo Academy of Medicine the following officers were elected: president, Dr. Stephen Y. Howell; secretary, Dr. Harry R. Trick; treasurer, Dr. Lawrence Hendee; trustee, Dr. John H. Pryor, and section officers—medicine, Dr. Henry C. Buswell, chairman, and Dr. Carl S. Tompkins, secretary; surgery, Dr. James H. Lewis, chairman, and Dr. Herbert A. Smith, secretary; obstetrics, Dr. Joseph S. Lewis, chairman, and Dr. Alfred H. Nahren, secretary; and pathology, Dr. Henry Adsit, chairman, and Dr. Guy L. McCutcheon, secretary.

District Nurses.—The twenty-sixth annual meeting of the District Nursing Association of Buffalo shows that during the year 28,364 visits were made and 2,176 patients were under care. The work of the association is divided into district nursing, tuberculosis work, the baby's dispensary and social service. There are eight nurses in the district work, and six in the tuberculosis work, one in the babies' dispensary and the others in the social service. In the babies' milk dispensary 213 patients attended; 16,707 quarts of milk were distributed and 102,650 bottles were sterilized.

NORTH CAROLINA

Personal.—Dr. Clarence Judd, Holly Spring, has been elected resident physician of Rex Hospital.——Dr. George W. Long, Graham, has been elected superintendent of health of Alamance County.

Field Hospital at Asheville.—It has been decided to make Asheville the headquarters of the field hospital of the organized militia of North Carolina. Captain Francis J. Clemenger has been designated to recruit and command the field hospital. The field hospital, the ambulance company and three regimental infirmaries will be organized first. The ambulance company will be located at Raleigh under the command of Lieut. Herbert Haywood.

PENNSYLVANIA

Pure Milk Crusade.—During the last month, samples of milk for analysis have been taken in over thirty counties and eight prosecutions for the sale of milk containing formaldehyde or other preservatives were commenced July 12 by Dairy and Food Commissioner James Foust.

Personal.—Dr. L. H. Marshall, Conneautville, had two ribs broken and received serious injury in an automobile accident July 12.——Dr. R. W. Brown, Greenville, has been appointed chief surgeon of the Bessemer and Lake Erie Railroad, vice Dr. Samuel M. Ziegler, deceased.——Drs. George D. Nutt and John G. Clump have resigned from the board of trustees of Williamsport Hospital. Dr. Charles W. Youngman has been appointed president of the board of trustees of that hospital and Drs. G. Franklin Bell and Charles E. Heller have been elected trustees. The following staff has been selected: consulting physician, Dr. Eugene B. Campbell; physician-in-chief, Dr. Horace G. McCormick; surgeon-in-chief, Dr. G. F. Bell; physicians, Drs. Horace G. McCormick and William E. Glosser; diseases of children and contagious diseases, Dr. Waldo W. Hull; surgeons, Drs. G. Franklin Bell and Charles M. Adams; gynecology and genito-urinary diseases, Dr. Edward Lyon; pathologist and microscopist, Dr. Ferd. E. Weddigen; outdoor department, Drs. John P. Harley and George R. Drick, Robert F. Trainer and Charles J. Cummings, and eye, ear, nose and throat, Drs. Wesley F. Kunkle and H. Murray Ritter.

Philadelphia

To Enlarge Race Street Pier.—It has been found necessary to add fifteen beds to the Race Street Pier Hospital, as the present capacity of twenty-five beds has proven too small. This hospital is open day and night, and besides the general hospital equipment, it has a medical staff consisting of Dr. Le Roy A. Wilkes, resident physician; Drs. James D. Brittingham and Henry J. E. Newman, attending physicians, and Drs. Edwin E. Graham and J. P. Crozer Griffith, consulting physicians. There is a nursing staff of six trained nurses.

Gift to Red Bank.—Mr. and Mrs. John F. Combs have given $15,000 for building a sea wall to protect the property at Red Bank, N. J., conducted by the Sanatorium Association of Philadelphia. At Red Bank there is a grove where children are allowed the greatest amount of liberty, and a building, fitted up as a hospital, with large airy wards in which are beds capable of accommodating about twenty-five children. Last summer more than 103,000 persons were taken to the resort and during the time that the Sanatorium Association has been in charge almost three and a half million needy persons have been taken there.

Personal.—Dr. John A. Kolmer has been elected professor of pathology and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. Joseph S. Neff, director of public health, who has been seriously ill, is reported convalescent.——Dr. Herbert Fox, chief of laboratories of the State Department of Health, has resigned to assume the position of director of the Pepper laboratories of the University of Pennsylvania.——Drs. Edward B. Beasley and Albert Bowen have been appointed to the Queen's Hospital in Honolulu, Hawaii.——Dr. Melvin Franklin sailed for Europe July 10.

Gifts to Medical Libraries.—Since the former report of the chairman of the library committee, April 15, a number of substantial donations have been received at the Central Branch of the Free Library, northeast corner Thirteenth and Locust Streets, e. g. from Dr. John M. Cruice, six volumes of journals; from Dr. Francis W. Sinkler, twenty-six volumes, and from Dr. K. L. Storm (through Dr. A. B. Hirsh) numerous recent medical periodicals. There are thirty-six new and standard works in the Central Branch of the Free Library. These will also be forwarded to the Northeast Branch for the benefit of its members and physicians in good standing, as well as medical students on showing a matriculation card. A few additional books have been ordered to be purchased out of the appropriation of $100 made by the Philadelphia County Medical Society, and the following journals will be sent to the Northeast Branch after July 1, 1911: THE JOURNAL of the American Medical Association, *Therapeutic Gazette*, London *Lancet*, and the *American Journal of Surgery, Gynecology and Obstetrics*.

WYOMING

Change in Medical Board.—Dr. J. B. Tyrell, Laramie, formerly secretary of the Wyoming State Board of Medical Examiners, is now vice-president and Dr. Albert B. Tonkin, Riverton, formerly vice-president, has been made secretary of the board.

Election.—The Big Horn Medical Association, at its recent meeting in Basin, elected the following officers: president, Dr. C. Dana Carter, Basin; vice-president, Dr. R. M. Hamilton, Grayboull; secretary, Dr. George A. Harris, Basin, and treasurer, Dr. Torgeson, Lowell.

GENERAL NEWS

Prize Essay.—Dr. Lewis D. Mason, Brooklyn, vice-president of the American Society for the Study of Alcohol and Other Narcotics, has offered a prize of $150.00 for the best essay on "Biologic and Physiologic Relations of Alcohol to life." The essay must be the result of original research which shall confirm or disprove the present theories of the inherited effects of alcoholic degeneration and indicate how far the defects of the parents are transmitted to the children. Such

work may be carried on in man or animals, and the results may be illustrated by drawings or photographs, and must be typewritten and sent to the office of the secretary before July 1, 1913. This offer is open to students in all countries, and each essay should be accompanied by a motto and a sealed envelope containing the same, with the author's name and address. All inquiries should be addressed to Dr. Thomas D. Crothers, Hartford, Conn., secretary.

Railway Surgeons Hold Meeting.—At the annual meeting of the Monon Surgical Association, held in Indianapolis, June 29, Dr. Arthur J. McDonald, Bedford, Ind., was elected president, Dr. H. E. Sharrer, Hammond, Ind., vice-president, and Dr. Samuel L. Ensminger, Crawfordsville, Ind., secretary-treasurer.

Annual Meeting of Surgeons.—The annual meeting of the American Surgical Association was held in Denver, June 19-21. Montreal was selected as the meeting place for 1912. Dr. Arpad G. Gerster, New York City, was elected president and Dr. Robert Grier Le Conte, Philadelphia, was reelected secretary.

Medical Editors' Association.—The forty-second annual meet- of the American Medical Editors' Association, held in Los Angeles, June 26 and 27, under the presidency of Dr. Joseph McDonald, Jr., New York City, elected the following officers: president, Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service; vice-presidents, Drs. Thomas L. Stedman, New York City, and Walter Lindley, Los Angeles; secretary and treasurer, Dr. Joseph McDonald, Jr., New York City, and executive committee, Drs. Wallace C. Abbott, Chicago; Cyrus L. Stevens, Athens, Pa., and George H. Kreidler, Cincinnati.

Rockefeller Institute Staff Appointments.—The board of scientific directors of the Rockefeller Institute for Medical Research announces the following appointments to the staff: Dr. Alfred E. Cohn, associate in medicine; Dr. Arthur W. M. Ellis and Dr. Alphonse R. Doches, assistant resident physicians; Frank W. Bancroft, Ph.D., and Reinhard H. Beutner, Ing.D., assistants in experimental biology; Drs. James B. B. Murphy and Henry K. Marks, assistants in pathology; J. J. Bronfenbrenner, fellow in pathology; Frederick B. La Forge, Ph.D., and Angelia M. Courtney, assistants in chemistry, and Helen L. Fales, research scholar in chemistry.

Hospital System for Railroads.—The Illinois Central Railroad Company announces that, beginning with this month it will open a surgical department to include its entire lines. The department will be in the hands of a cooperative benefit and relief association, where each employee who desires may contribute 50 cents a month to the maintenance fund. Dr. Guy G. Dowdall, chief surgeon of the road, will be in charge of the department. All who contribute to the fund are entitled to hospital treatment and medical and surgical care at designated hospitals, to medical and surgical treatment at their homes or at the offices of the surgeons of the hospital department; to medical and surgical dressings, artificial limbs and eyes, trusses, elastic bandages and other appliances, and to eye-glasses when required as the result of injury.

FOREIGN NEWS

Central America Medical Congress.—The first International Medical Congress for the states of Central America has been organized, to be held at San Salvador during November. Dr. T. G. Palomo is to preside.

Danish Automobile Club.—The physicians of Denmark have a special "Danske Lægers Motorklub," and at the annual meeting recently there was an interesting exhibition of cars and appliances for the use of motoring doctors.

Semicentennial of Polish Medical Journal.—The journal, *Przeglad Lekarski*, the official organ of the Cracow Medical Association, celebrated the fiftieth anniversary of its foundation July 17. Cracow is the capital of Austrian Poland and numerous invitations to the celebration were sent out. Prof. N. Cybulski is the president of the association. Prof. S. Ciechanowski is editor of its journal.

University for Iceland.—The University of Reikiavik was formally organized last month and will enter on its work next October. There has been a medical college there since 1876 and this will be incorporated with the university. It is stated that the new university will open with nine professors and twelve docents, and that the higher official positions on the island will henceforth be reserved for those who have passed the examinations of the university.

Death of Professor Senator.—The cable brings word of the death of the eminent Berlin clinician, Hermann Senator, aged 77. His seventieth birthday was celebrated in 1904 with much ceremony and his medical diploma was renewed in 1907 on the occasion of the fiftieth anniversary, his golden jubilee. He has kept up his frequent contributions to medical literature to the last, the current mail containing another article from his pen on "Idiopathic Enlargement of the Spleen." His works on albuminuria, diabetes and kidney disease have passed through many editions and been translated into all the current languages. He was born Dec. 6, 1834, in a small town in Posen, but has always lived at Berlin, becoming privatdocent for internal medicine and medical jurisprudence in 1868 and regular professor in 1875, and has been in charge of the third university medical clinic since 1888 until recently. He has long been president of the Berlin Medical Society but declined reelection this year on account of his advanced age. He resigned his professorship in 1910, at the same time as Olshausen who is a year younger. Senator's student days were distinguished by his poverty and his diligence; it is said that he selected his room near a street lamp that he might save the cost of lighting the room. His earnestness soon won recognition so that he became the "famulus" or amanuensis of his teacher, J. Müller, by the end of the third semester. Senator early won a large consulting practice, and was one of the physicians of the Emperor Frederick, but his chief distinction was as a teacher and investigator. His lectures were characterized by his power of clear exposition and his ready flow of language. On the celebration of his seventieth birthday one of his pupils collected the titles of nearly 200 articles published by him. Some of his works on legal medicine, neurology and various infections are regarded as classics, and his article on the changes after death from chloroform poisoning was so complete that C. Strauch in the *Berliner klin. Wochenschrift*, 1904, commented on this article that after forty years no essential advance over his description had been made notwithstanding the finer methods of investigation now at the disposal of medicine. The pathology of metabolism was Senator's special field, and in this he much increased the store of knowledge. He was one of the first to recognize auto-intoxication from the intestinal canal. He refused the charge of the pediatric clinic, after the death of Henoch, saying that he wished "to be a physician and not a specialist."

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 8, 1911.

The National Insurance Bill

The profession is making great efforts for the removal of the objectionable features of the national insurance bill. The whole of England has been divided into large areas and medical committees appointed for each. These interview the local members of parliament and acquaint them with their views. There is every prospect that the struggle of the profession will be crowned with success. As stated in the previous letters to THE JOURNAL, the great bone of contention is the income limit of $800 for medical benefits, which the profession considers much too high. With practical unanimity the profession is opposed to any plan under which persons who can reasonably be expected to pay fees and do pay fees at present, should obtain medical attendance on the capitation system of the insurance bill. Although Lloyd-George at first regarded the demand of the profession on this point as impossible, he is now negotiating on it. In the many meetings of friendly societies which he has attended, and deputations which he has received, he has again and again referred to the great difficulties he has had with the profession and shown a desire to satisfy it, as far as possible. He has declared that it is important that the profession should work whole-heartedly in the scheme, and that members whose lives depend on skilful medical treatment should come in feeling that they have been well treated on the whole and given the best brains. It is reported that he has adopted a new scheme to satisfy the doctors on the question of wage limit. Under this, persons who can pay fees to doctors, but have medical benefit under the bill, are to continue to pay fees, but medical benefits are to be accumulated. When illness comes, these accumulated benefits will go toward paying the doctor and when they are exhausted, the patient will pay from his own resources. At the forthcoming meeting of the British Medical Association at Birmingham on July 21, a full statement will be presented to the representative meeting as to the position of the profession in relation to the bill. The subject will be further discussed by the whole association in the medical

sociology section under the heading "Medical Aspects of the Poor Law Question with Special Reference to State Insurance and the Provision of Better Medical Attendance on the Poor by (a) Whole Time Medical Officers; (b) Provident Dispensaries and Other Forms of Contract Practice; (c) Private Medical Practitioners." On other points than the wage limit the chancellor has made important concessions to the profession. He is prepared to provide that the insurance commissioners should include at least one doctor who has had personal experience of practice in the class from which the insured would be chiefly drawn. He will also provide that the advisory committee shall include representatives of the profession, who have had similar experience, and that the number of medical members on the local health committee shall be increased by at least three, two of whom shall be directly elected by the local profession.

A Colonial Entomologic Research Committee

The great results in tropical hygiene achieved by the anti-mosquito campaign have caused attention in this country to be devoted to the entomology of our colonies, particularly in its economic aspects. The latest result of this movement is the establishment of a Colonial Entomological Research Committee. This was decided on at an important meeting of the representatives of the self-governing colonies, who are now present in this country for the conference. The object of the meeting was to discuss a scheme for the prevention of the spread of disease in agriculture and horticulture. Lord Cromer, the chairman, stated that it was proposed to establish a central organization in London for the transmission of information to various parts of the empire, for the promotion of a greater knowledge of insect-pests than exists at present. This information would be useful, no doubt, in preventing the spread of disease in animals and plants throughout our various dominions, and indirectly human life would be benefited.

Scientific Research Under Government Grants

The president of the local government board has authorized the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: (1) A research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, pathologist to St. Bartholomew's Hospital; (2) an inquiry by Dr. J. H. Thursfield of St. Bartholomew's Hospital into the causes of death in measles; (3) a comparison by Professor Nuttall, F. R. S., quick professor of biology at the University of Cambridge, of the number and kinds of fleas found on rats; (4) a continuation by Dr. C. J. Lewis of Birmingham University of his investigation into the degree of prevalence and the characteristics of micro-organisms known as non-lactose fermenters in the alimentary canal of infants; (5) an investigation into the same subject by Dr. D. M. Alexander of Liverpool University; (6) an inquiry by Dr. Graham Smith of Cambridge University into the incidence of non-lactose fermenters in flies in normal surroundings and in surroundings associated with epidemic diarrhea; (7) a study by Dr. F. A. Bainbridge of the Lister Institute of the anaerobic bacteria in the alimentary canal of infants; (8) an investigation by Dr. Graham Smith into the possibility of pathogenic microorganisms being taken up by the larva and subsequently distributed by the fly.

The Medical Service of the Royal Navy

A committee to consider the conditions of service of the medical department of the Royal Navy, including medical officers, nurses and sick-berth staff, has suggested important reforms which will shortly be promulgated. The changes recommended and now approved are far-reaching and will, it is anticipated, bring contentment to the medical service of the premier fighting force of the nation. The new regulations provide not only for improved conditions of service in the medical department, but also for increased facilities for post-graduate professional study and accelerated promotion for those officers who show special merit. In Queen Alexandra's Royal Naval Nursing Service the age of entry has been raised, the rates of pay increased and an intermediate grade of superintending sister instituted. In the sick-berth staff, improvements are made as regards entry, training, examination and special allowances for certain special work. In the nurse profession of the army, similar reforms were made after the Boer war and have not only produced contentment but have raised the scientific level of the army doctor.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 30, 1911.

Personal

On June 27, the Académie de médecine elected a member in the section of medical pathology in place of Dr. Kelsch who recently died. Dr. Pierre Marie, one of the most distinguished pupils of Charcot, was elected. Dr. Marie is known especially for his work on the diseases of the spinal cord. Our knowledge of acromegaly, or "Marie's disease," especially, is due to him. Lately he has published a series of investigations tending to recast completely the classical doctrine of the localization of aphasia. Dr. Marie is now physician at the Salpêtrière. In 1908 he received the chair of pathologic anatomy at the Faculté de médecine de Paris, succeeding Professor Cornil.

Protection of Maternity

A bill has recently been introduced into the Chamber of Deputies to give all mothers of families employed in industrial establishments an hour a day for a year from each childbirth to suckle their children during working hours. This hour may be divided into two periods of thirty minutes each, which may be taken by the mothers at hours fixed by agreement between them and their employers. This hour may not be deducted in reckoning the day's wages. The sponsors of this bill urge the necessity of combating infant mortality, which is equal to that of tuberculosis. Statistics for the death-rate in 681 cities of France, including a total population of 13,190,721, shows that 167 out of every thousand deaths, about a sixth, are of infants under one year old, and 80 per cent. of these deaths are among the working population. This terrible coefficient rises in Lille to 274 per thousand, in Dunkirk to 342, in Nancy to 414, and in Saint-Pol-sur-Mer it reaches 509 per thousand; in other words, in this last city the mortality of infants under one year is more than half the sum of the general mortality. In searching for the cause it has been recognized that out of every thousand deaths of infants under one year, at least 766 might have been avoided, for 385, directly due to gastro-enteritis and diarrhea, are indirectly due to bad nutrition and especially to deprivation of the maternal breast, and 171, attributed to congenital debility, are really due to overwork of the mother during pregnancy and neglect of necessary hygienic precautions. In six years 220,000 children that might have been saved have died.

Consumption of Absinthe

In spite of the ravages caused by the consumption of absinthe it has not yet been prohibited. The senate has just received the report of the commission charged with the examination of the bill of M. de Lamarzelle to prohibit the manufacture and sale of absinthe. The commission has approved the bill which prohibits under a penalty of from $20 to $400 (100 to 2,000 francs) the manufacture, the sale, the transportation, the storage for the purpose of sale and the importation of all drinks or alcoholic liquors containing thujol, essence of absinthe. The law will go into effect two years after promulgation, except as regards importation, which will be immediately prohibited. According to official communication the known consumption was in 1872, 6,713 hectoliters, 10,150 hectoliters in 1878 and 18,000 hectoliters in 1880. From that date on the consumption of absinthe increased prodigiously and regularly until it reached 238,467 hectoliters in 1900, since which time consumption has declined a little, varying between 160,000 and 207,000. It was about 172,116 hectoliters in 1910.

Hygiene of Illumination

The Ministry of the Interior has organized a technical committee on natural and artificial illumination, presided over by Dr. Gariel, professor of physics at the Faculté de médecine de Paris. This committee is (1) to study from the point of view of general and ocular hygiene the various modes of artificial illumination at present in use; (2) to determine the composition and the hygienic qualities of the various artificial lights and in the case of the lights produced by combustion, the harmful gases and the heat developed; (3) to fix the minimum quantity of artificial light compatible with the normal function of the eye; (4) to establish the most practical means of measuring luminous intensity; (5) to establish the best rules of application of the methods of artificial illumination at present in use for each class of the principal industries; (6) to present to the department a report of the relations of myopia and blindness and the best means of removing the causes of myopia.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 29, 1911.

The Imperial Insurance Bill

The society of German physicians at its meeting of June 23, the annual Aerztetag, which had been awaited with the most earnest expectations with reference to the position to be taken in regard to the proposed imperial insurance law, adopted a resolution which has fully met the hopes which I have previously expressed. The fears of the friends of the medical profession and the hopes of their opponents that the organization would put itself in opposition to the social legislation and hinder the participation of physicians in carrying out the new reform have fortunately not been fulfilled. On the other hand, the meeting proposed a scheme for an organization which will serve to regulate the relations of physicians with the Krankenkassen and will better matters so far as the free choice of physicians is concerned. For this purpose a general contract bureau is proposed, to be arranged by the insurance committee of the society in conjunction with the executive committee of the Leipsic league for testing all contracts of physicians with the Krankenkassen. It is to be the duty of the existing local bodies for examining these contracts to transmit every contract to this central bureau and to accept a contract only after it has received the sanction of the central body, which will insist on the following provisions: *a*, to promote and extend the free choice of physicians in accordance with local conditions; *b*, to provide for an adjusting committee for disputes arising from the contracts, in which both sides shall be equally represented and for the discussion of all common affairs and to act as an arbitration tribunal; *c*, to make provisions for the arrangement of courts of appeal; *d*, provisions to render impossible treatment by quacks at the expense of the Krankenkassen; *e*, provisions for fees for medical work according to the time occupied, and *f*, to hinder the annihilation of private practice, especially in country districts, that is threatened by the raising of the insurance limits and the extension of insurance privileges to those able to pay, and to ensure that persons who have a total income exceeding $500 (2,000 marks) shall pay for medical attendance, according to the methods and with the fees used in local private practice. The Leipsic league will lend its aid to the local organizations in carrying out these provisions, and in conjunction with the business committee and the assembly of delegates will give directions for the provisions of contracts to the bureaus for examination of contracts and the societies, and will communicate to them the measures which must be employed in case the demands of the physicians meet with opposition on the part of the insurance authorities. The hope may be expressed that this well-thought-out resolution may receive recognition from the government and that the decisiveness with which the medical profession is willing to take in hand the regulation of the affairs of insurance physicians according to a uniform plan will contribute to prevent the continuance of the previous frequent disagreements between physicians and the insurance societies. To the Leipsic league belong about 24,000 physicians, which is more than 95 per cent. of the entire German profession. May 1 the league had ten national and provincial departments, 129 sections, 20 local groups, sixteen groups of assistants, 1,088 superintendents and thirty-three superintendents of employment bureaus for assistants and universities. Its activity as agent for filling medical vacancies is shown by the fact that in the last year 3,000 positions open to physicians were provided for. So far the league has taken part in not less than 1,000 disputes with the Krankenkassen, of which 920 were decided in favor of the physicians, thus failing in only eighty.

Regulation of School Medical Examinations

The Prussian minister of education has issued the following order in regard to school examinations: 1. The examination of children, especially with exposure of the body, may be made only when the parents make no objection. In general, an exposure of the back and breast will be sufficient. 2. In the examination of girls a male teacher must never conduct the examination, but always a female teacher, or in case there is no female teacher another suitable woman (such as an industrial instructress, or the wife of the teacher) must make the inspection. 3. The examination of children must be conducted singly. If a special room is not available, a screen shall be used that will hide the undressed child from the view of the others.

Exclusion of Children from Moving Picture Shows

The chief of police of Berlin has issued an order that children under 14 are forbidden from visiting moving picture shows after 9 p. m., even when accompanied by adults. The chief has provided by this order against the dangers that threaten from pictures that exert a brutalizing and exciting action on young minds. As this danger was not sufficiently avoided by very thorough supervision it was necessary to make the prohibition complete. The attempt of the owners of the theaters to remove this prohibition with the help of the courts has been of no avail, as the highest Prussian court has decided that the order is entirely legal. This step of the Berlin chief of police has been followed by the provincial authorities. Some time ago the police received the general right from the authorities to forbid the exhibition of unsuitable cinematographic films, especially when young persons are admitted. As the moving picture firms often conceal from the provincial police officials the fact that many films are prohibited in Berlin, in future a list of the interdicted films will be published twice in the Prussian Central Police Journal, the *Preussische Zentralpolizeiblatt*.

Ernst v. Leyden Foundation

In order to secure larger funds for the investigation and extinction of cancer, the German central committee for cancer research comes before the public with an appeal to create a foundation which is to be known as the Ernst v. Leyden foundation for cancer research and repression. By bearing the name of the dead scientist it will fulfill the purpose of a memorial offering to one who gave a new impulse to the campaign against this disease. We scarcely believe any great interest in this foundation will be manifested in Germany. Modern investigations have, to be sure, thrown much valuable light on the general pathology of malignant growths, but the darkness has not been lessened in the most important fields of etiology and therapy. On account of this relative failure no great inclination exists in the public mind to devote more money to this purpose. Not even the name of Leyden himself will afford sufficient attractive force for the purpose.

Effect of the Social-Democratic Boycott on Spirits

As I have noted several times, the social-democratic party two years ago decided to boycott alcohol as a weapon in their fight against the landowners and as a hygienic propaganda. According to official statistics of the alcohol industry in Germany, it appears that the resolution has been successful. To be sure such calculations should be made with caution, as many factors, not always evident, affect economic changes. According to the statistics in the trade year of 1909-10, only 1,783,027 hectoliters of spirits for use as beverages were put on sale as compared with 2,650,622 in 1908-9. This is a reduction of 867,595 hectoliters (66,265,550 gallons). We thus had a consumption of 2.8 liters of spirits per capita for drinking purposes as compared with 4.2 liters in 1908-9, a reduction of 1.4 liters below that of the previous year, or exactly one-third. In the last twenty years, the consumption of spirits has varied between 3.8 and 4.7 liters per capita, so that the differences from year to year have been at the most 0.3 liter. Probably the reduction will continue for the trade year 1910-11, for the excise taxes on spirits for the fiscal year 1910 were only 153,000,000 marks, while the revenue from this source in 1909 was 187,000,000 marks, a difference of $8,500,000.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 5, 1911.

Celebration of the Fourth of July by the American Physicians in Vienna

Fourth of July was celebrated by the American physicians of Vienna this year by an excursion to Baden, a charmingly situated health resort with numerous hot sulphur baths, some twenty miles south of Vienna. Upward of 200 doctors, with their wives, also several children, were brought by special train to the watering place, where representatives of the municipality and of the medical societies of this place received the honored guests. The day was spent partly in the beautiful surroundings, partly in the park, where a baseball game was arranged. A trip to the interesting hot sulphur springs, to the hydrotherapeutic and the other medical institutions of Baden formed an instructive diversion after dinner and supper. Needless to say that the doctors were well cared for by the municipality of the bathing place, the mayor (*Burger-*

meister) of which is also a medical man. Besides, a reception took place at the American Embassy, in which also a large percentage of the American doctors staying at present in our city were welcome visitors.

Statistics Regarding Suicide in Vienna

The first half year of 1911 has shown for the first time in fifteen years a decrease of the number of suicides, and also of the attempted suicides. The figure was 265, or 10 per cent. less than any other half year since 1896; 188 men, seventy-three women and four children (three boys and one girl) killed themselves. The latter figure is the more startling as the suicides of children are increasing in frequency. The youngest of these was 9 years old, the oldest 14 years. These victims were mostly driven to desperation by fear of punishment from school, a fact much commented on in the papers. It is interesting to note that the winter months and the gloomy early spring days bring fewer attempts at suicide than the glorious days of May and June. This has been noted for our country for a series of years. No satisfactory explanation is yet given. The oldest person who killed himself was 87 years, and the highest number of suicides was fifty-seven in May and fifty-one in June (twenty-two and seventeen women, respectively).

The First-Aid Corps in June

The Wiener freiwillige Rettungsgesellschaft (Voluntary First-Aid Corps of Vienna) has intervened in the month of June in 3,187 cases of sudden disease or accidents. Of these, 108 were more or less successful attempts at suicide, forty-seven cases of madness, thirty-three cases of persons found dead and eleven cases of malingering, while 1,139 injuries were taken care of by the officers of the corps, who besides assisting in 650 instances of attacks of disease in the streets (apoplectic attacks, heart failure, etc.), had to attend in eight large gatherings of people on account of the elections to parliament. Since the existence of the corps, 256,590 persons were attended to.

Gymnastics for Middle Schools

The school board for lower Austria has instructed all head teachers of the lower and middle schools to pay special attention to light athletic sports and gymnastics for the youths of 10 to 18 years in the open air. Eighty to 100 boys will form gymnastic classes and a novel experiment will be the self-government of these classes. The two new groups of open-air exercises are swimming and ball games, including football, while running, fencing and gymnastics with apparatus are already at present much favored in our schools. Winter sports will also be taken up in the program; sledges and skating, as well as marching and excursions into snow regions on skis. Shooting will not be made compulsory, but it will be encouraged by the teaching staff. The pupils will also be encouraged to walking exercises, excursions lasting from one to three days with camping out, and the vicinity of mountains will be made use of by judicious mountain climbing. Practical teaching in combination with these outdoor exercises is earnestly recommended. For the purpose of obtaining funds necessary for the apparatus, small sums will have to be paid by those of the pupils who can afford to do so, 2 to 10 kronen (40 cents to $2) being the limits. Arrangements have been made with public baths, transport societies and like institutions to permit frequent use of the respective properties. Exemption from the light exercises will be granted only on medical advice while the more difficult exercises are optional.

Miscellany

Careful References Save Time.—F. A. McDermott writes in *Science* (June 2, 1911), that it has been his duty, during the past two or three years, to compile, or to assist in the compiling of, a number of extensive bibliographies and lists of references to the literature of various chemical subjects, and during this work it has been often impressed on him with what laxity and apparent disregard of consequences some authors handled—or failed to handle—their references to prior work. The same difficulty is all too often experienced when looking up some apparently simple subject. For instance, an article was recently desired by a chemist employed in certain synthetic work, describing a method for the reduction of certain compounds, referred to in a scientific paper, without further information, as "Ladenburg's" method. Persistent search of the indexes of the journals where the paper would most probably have appeared yielded only a brief polemic note, which made no reference to the appearance of the original paper. The proper method was finally found as a side issue in a paper on oximes, through the use of a very recent hand-book of laboratory methods, the author of which had very probably gone through the publications of Lanenburg until he struck this article. Had the author of the paper from which the reference (?) mentioned in the first sentence of this paragraph taken half a minute's more time and given this reference, he would have saved others literally hours of searching. Another instance: Certain important and excellent work was recently done in Philadelphia on methods of sewage disposal. As one feature of this work, a large number of determinations of the amounts of nitrates present were made by what was referred to as "McRae's narcotin test," no reference or description of the method being given. It became necessary elsewhere to find the details of this method, and it so happened that the usual chemical abstract journals had missed this paper. As a last resort, the "Index Medicus" was looked through and finally a reference to the paper was found, though even here the citation given was not the one where the paper would usually be most easily found. Had the author of the report of the Philadelphia experiments given a half-line reference to the place of publication of this method, he would have saved an hour or more of the time of one or two men in a busy laboratory. Fortunately, cases of the total omission of an important reference are comparatively rare, though the embarrassment and additional work caused by such omissions is quite sufficient to warrant their being judiciously guarded against. More frequent, and sometimes equally troublesome are the cases in which erroneous page, volume or year numbers are given, or sometimes even an erroneous journal or book name. A recent case was that of an author who referred some eight or nine times in a paper of four pages, to the work of another author "Schreiber"—"Schreiber's" correct name was "Fleischer."

Prevalence and Distribution of Small-Pox.—The last government report on public health (June 23, 1911) contains a review of the general prevalence and geographic distribution of small-pox during 1910. The most notable feature of this disease has for the last ten years been its extreme mildness and low death-rates in this country, as compared with reports from abroad. There is, however, a considerable increase since 1909, in both the number of cases and the number of deaths. From all reports available, including those states from which only local reports have been received, it is seen that the number of cases reported have increased by one-fourth (from 24,099 in 1909 to 30,352 in 1910) and the number of deaths have almost trebled (from 150 in 1909 to 415 in 1910). There have during the year been quite a number of severe outbreaks, and the question arises as to their source, whether they are instances of infection from abroad, or if the mild strain of the disease under certain conditions becomes virulent. Utah shows the highest case-rate in 1910, as in the preceding year. The most notable increase in a single state took place in Florida, which for 1910 reports 1,286 cases against 3 cases in 1909. The statistical material of this report was available for only twenty-six states and the District of Columbia.

Susceptible Protoplasm.—It is an incomplete statement to say that the tubercle bacillus is the cause of tuberculosis, or alcohol the cause of delirium tremens, says Dr. C. B. Davenport (*Pop. Sc. Month.*). Experience proves it, for not all drunkards have delirium and not all that harbor the tubercle bacillus die of consumption—else we must all die of that disease. No, the causes of death as given in the health reports or census bulletins are not the real causes. All of these results are due to an inciting condition acting on a susceptible protoplasm. The real cause of death of any person is his inability to cope with the disease germ or other untoward condition.

Scarcity of Physicians in Russia.—According to figures published by the St. Petersburg *Herold*, June 15, 1911, European Russia has only 1 physician to 8,000 inhabitants, while the proportion in France is 1 to 2,630 inhabitants, in England 1 to 1,730 [and in the United States 1 to 650]. In Siberia there is only 1 to 15,200 inhabitants and in the Caucasus only 1 to 20,000. The physicians in Russia are mostly congregated in the cities; at St. Petersburg the proportion is 1 to 700 inhabitants; in the country it ranges from 1 to 27,000—the generally prevailing proportion in European Russia outside of the towns—to 1 to 91,600. This scarcity of physicians explains, the *Herold* says, the high mortality in Russia outside of the towns and the unchecked spread of epidemics. The single physician is powerless in face of such extremely unfavorable conditions and, besides this, he has to contend with the dense superstitious ignorance of the people. The medical schools turn out only a few hundred graduates each year, the number having progressively declined from 1,078 in 1898 to 798 in 1907.

Jewish Attitude Toward Hygiene.—The preservation of physical well-being is looked on in Judaism as a religious command. The neglect of one's health was regarded as a sin; and the Nazarite who vowed to abstain from wine was considered a sinner, as well as he who fasted or underwent other penance, without reason. There was not a distinct department of public health in the government of the ancient Jews. The charge of infectious diseases, such as leprosy, and of epidemics of all kinds, was delegated to the priests, who acted as the physicians. The Talmud mentions the office of a physician in the temple, whose duty it was to look after the health of the priests. In later times every town counted among its permanent officials a physician who supervised the circumcision of children and looked after the communal well-being. A scholar was forbidden to live in a city where there was no physician. For domestic sanitation the commandments given in the Bible direct the covering of the blood of a fowl or of a wild beast with dust, and the covering of excreta with earth, and the appointing of a special place outside of the camp for depositing the excreta. In order to prevent the spread of leprosy, a complete system of quarantine laws was developed in the Levitical code. From the data of various writers, it is reasonable to conclude that biblical and modern leprosy are, in all probability, not the same disease, the former not being considered contagious, the segregation of lepers being regarded, at any rate, at certain periods, more in the light of a religious ceremonial than as a hygienic restriction. The numerous laws of purity and health scattered throughout the Bible were afterward regarded as important factors, and the system of bath ablution which forms a large portion of the Jewish laws of cleanliness has had a marked influence on the physical health of the people, so that in epidemics they have frequently been immune.—Dreyfus in *Jour. Am. Pub. Health Assn.*

Finger-Prints and Identity.—It is thought that the epidermic ridges of the fingers and palms, as well as the soles of the feet, are a survival of the pads or permanent callosities of the mammalian paw which bear the weight in walking. In the typical paw there are five pads at the ends of the digits and five on the surface of the palm or the sole. In monkeys, where the habit of climbing instead of walking makes requisite a delicate organ of touch, the pads have become flattened and their hard covering replaced by a soft epidermis, whose lines and ridges show the positions of the pads by scroll and whorl patterns. In man, the arrangement of these ridges has become of secondary importance; a standard form is no longer maintained, and individual variation has enormously increased. It is this high degree of individual variation which is important from the standpoint of identification. It is, practically speaking, infinite. Not less important is the fact that the patterns are formed in embryo, and from the sixth month of uterine life remain unchanged until the destruction of bodily tissue. A system of classification of the digital ridges was first devised by Galton, and has been elaborated by many workers, notably the Argentine, Vucetich. In some form dactyloscopy, so called, has largely superseded the Bertillon system in police work. It requires, however, study and experience as well as intelligence in operation. An American, Dr. H. H. Wilder, has proposed the extension of the observations to the palm of the hand and to the sole of the foot. The advantage of this is that the variation in these surfaces is greater and the details larger and more obvious. From the scientific standpoint, therefore, finger-prints offer strong evidence of identity, though only properly available in trials through expert testimony.—*Journal of Criminal Law and Criminology.*

The Doctor on the Witness Stand.—In an article of practical advice, not on expert testimony, but on the deportment of an ordinary physician on the witness stand, the *Medical World* says: Never permit yourself to take sides; simply tell the straight truth; it is up to the jury to form opinions as to the merits of the case, and it is not anybody's business what your personal opinion is. Do not tell a long story. Keep the attorney asking questions. Answer each as tersely as possible and then stop. Study well beforehand any anatomic or physiologic points that will come up, and then you will not need to let any attorney frighten you by an apparent grasp of medical subjects. Tell nothing but what you know to be a fact. The attorney may try to tempt you into turning a guess into a statement of fact, and then he will have the advantage of you. Never say that you have read a certain book; say you have read parts of it, lest the lawyer expect you to be perfectly familiar with the whole book. Be polite, professional and courteous and demand the same consideration.

Treatment of Psychoses.—It has been the experience of F. W. Robertson (*Monthly Cyclopedia and Medical Bulletin*, May, 1911) in the treatment of the psychoneuroses where the power of attention has not been too much disturbed, that well-selected amusements, card-playing, games, some of the plays, or conversation on subjects which arouse the patient's interest frequently have a most beneficial effect. A visit for a week with friends, or a change of location, he has found will also often work wonders as a recuperative agency. In many instances, when treating patients in their homes, he has found it unwise to relieve women altogether of the light household duties, or the men of outdoor games or moderate exercise. To his mind, both as a means of exercise and occupation, the crying need of our hospitals and sanatoriums to-day is for properly equipped workshops and amusement rooms for men and women. Added to the benefits to accrue from the exercise and occupation afforded (occupation being used in the sense of a pastime), would follow the disciplinary effect on the patient, which would be a curative measure not at present sufficiently recognized, and one which he believes to be of inestimable value. For example, if (selecting proper cases) women were taught basketweaving, millinery, dressmaking, the lighter forms of woodcarving, drawing, painting, clay modeling, hammered brass and metal working; and if the men were taught pipefitting, patternmaking, mechanical drawing, carpentry, modeling, gardening, stenography, typewriting, painting (signs or frescoing), and both men and women were to have a choice of work, Robertson believes our institutions for the treatment of mental diseases would speedily be transformed.

The Cause of Pellagra.—In the theory advanced by George C. Mizell (*Atlanta Journal-Record of Medicine*, June, 1911), the attempt is made to establish an etiologic relationship between cotton-seed oil and pellagra. He says that the cotton-seed oil industry parallels the development of pellagra in the United States. Occasional cases may have occurred before this period from eating lard obtained from hogs fattened on cotton seed or through eating adulterated olive oil. From a historical standpoint this accounts for pellagra in every region for all time. A visit to the hospitals will show that there many patients develop the erythema on exposure to the sun. Further, many patients do not develop the erythema because of certain individual characteristics such as exert

an influence on and determine the other clinical features of the disease, in different individuals. Different people take on or lose different amounts of fat from the same diet. For some such individual characteristics everyone who is exposed to the cause of pellagra may not develop the disease. Mizell's investigations tend to show that the length of time between the beginning of eating cotton-seed oil varies according to the preparation used and, perhaps, individual characteristics. This period of time may be a few months or several years. Certain communities use almost entirely one brand. Others do not use cotton-seed oil at all. In some sections the people began the use of cotton-seed oil when the price of lard advanced in 1908. Many people began its use for the sake of economy; others because it was supposed to be more wholesome. Many people still buy and use lard. Pellagra in Georgia is limited to no section or class. Only individual characteristics determine immunity. Pellagra, then, in Mizell's opinion, is a disease due to eating semi-drying oils in quantities that cannot be disposed of normally, in which case they are deposited as fat foreign to the human organism, and in their final disposition by oxidation there is developed a series of end-products that act in a deleterious manner on all the cells and intercellular tissues of the body. The treatment proposed by Mizell is based on what he believes to be the biochemistry of the disease. Sulphur antagonizes the oxidation of linolin. Calcium given in combination with it is especially indicated; hence, as a specific agent, he gives calcium sulphid. Given in doses of one-half to 2 or more grains, three or more times daily, it shows its effects in a few hours. He began the use of calcium sulphid eighteen months ago and has never been disappointed in the results. That it does not relieve all cases is due to the fact that some are complicated by a long-standing gastro-intestinal lesion which antedates the onset of pellagra by a more or less long period of time. Mizell advises against the use of fats and oils of every kind, except castor oil.

Marriages

EDWARD CHAUNCEY REGISTER, M.C., U. S. Army, to Miss Jeannie DuBose Hayward at Sullivan's Island, Charleston, S. C., June 1.

ALBERT PATTON CLARK, M.C., U. S. Army, to Miss Mary Catherine Gannon of Washington, D. C., at New Orleans, June 24.

JOHN EDWARD WILSON, M.D., Natick, Mass., to Miss Harriet H. Greene of Southington, Conn., at Colorado Springs, July 6.

JOSEPH ROYAL PHELPS, M.D., U. S. Navy, to Miss Helen Alfredia Mansfield of Newton Highlands, Mass., July 1.

WILLIAM J. DURANT, M.D., Spencer, Iowa, to Miss Anna Mable Seemann of Greenville, Iowa, July 2.

HARRY ALONZO SIBLEY, M.D., Pontiac, Mich., to Miss Alice Sanford Wixom of Wixom, Mich., June 7.

WALTER E. EGBERT, M.D., to Miss Anna Davis Mahon, both of Chester, Pa., June 30.

SAMUEL A. DICKSON, M.D., to Miss Bula Dillingham, both of Shreveport, La., July 7.

Deaths

William Bailey, M.D., one of the oldest practitioners of Louisville and president of the Kentucky State Board of Health since 1909, died at his home in Louisville, July 15, aged 78. He was born in Bridgeport, Ky., and was graduated from the Kentucky Medical Institute near Frankfort as B. A. in 1853, and a year later the honorary degree of M. A. was conferred on him. For three years he acted as a professor of mathematics in his alma mater. He was graduated from the Kentucky School of Medicine in 1857 and seven years later had conferred on him the degree of M.D. by the University of Louisville. He practiced in Shelbyville, Ky., until the opening of the Civil War, throughout which he served as major and surgeon with the Ninth Kentucky Volunteer Cavalry. His college work commenced in 1869. He occupied successively chairs in the Kentucky School of Medicine, the Hospital School of Medicine, of the faculty of which he was president, and at the time of his death was the professor of materia medica and therapeutics in the University of Louisville. He was a member of the American Medical Association, president of the American Public Health Association in 1894, president of the state medical society and many other local societies of which he was a member. He was a member of the State Board of Health of Kentucky for twenty-six years and its president at the time of his death. He was also a member of the local board of pension examiners for many years. His illness commenced in December last when he fell and sustained an intracapsular fracture of the humerus. Soon after he had a cerebral hemorrhage. He improved after this, but a malignant growth of the mouth developed, which caused his death. Although honored by his professional confrères in every possible manner, Dr. Bailey was a man of very modest disposition; he was clean in his profession and pure in his life, was devoted to his family and beloved by all who knew him.

Sewell Matheson, M.D. Long Island College Hospital, Brooklyn, 1895; for several years an instructor in his alma mater; a member of the Medical Society of the State of New York; resident physician of the Manhattan Lying-In Hospital; demonstrator of operative surgery at the Post-Graduate Hospital; physician to the Frauen Klinik; assistant gynecologist at the Williamsburg Hospital; instructor in obstetrics at the Brooklyn Post-Graduate Medical College, and assistant obstetrician and later attending surgeon at Seney Hospital; died at his home in Brooklyn, from typhoid fever, complicated by pneumonia, aged 41.

Edmund L. Cocks, M.D. Bellevue Hospital Medical College, 1885; a member of the American Medical Association and New York Academy of Medicine; former president of the Harlem Medical Association, chief of the dermatologic staffs of the Fordham and Harlem hospitals, visiting dermatologist to Randall's Island Hospital, and assistant dermatologist to the New York Skin and Cancer Hospital; who was overcome by heat while conducting a clinic at Harlem Hospital, June 30; died at his home in Rockaway Park, Long Island, July 5, aged 55.

Edward Shippen, M.D. University of Pennsylvania, Philadelphia, 1848; medical director U. S. Navy, with rank of rear admiral, who entered the navy in 1849, and after thirteen years and four months of sea service and twenty-two years and one month of shore and other duty, was retired in 1888, on attaining the age of 62 years; author of numerous instructive and interesting works regarding naval life and history; died at his home, Chestnut Hill, Philadelphia, June 16, aged 85.

Pern Almyr Wakefield, M.D. Rush Medical College, 1899; a member of the Wisconsin State Medical Society; local surgeon for the North-Western Railway at West Salem, Wis.; physician and surgeon to the LaCrosse County Hospital for the Insane; died at his home in that city from heart disease due to over-exertion in fighting the fire which destroyed the business section of that town, July 2, aged 35.

Enoch Edgar Hume, M.D. University of Louisville, 1869; Bellevue Hospital Medical College, 1875; a member of the American Medical Association; formerly a member of the legislature from Anderson County, Ky.; prominent as an educator and for many years a trustee of the State Normal School for Negroes, Frankfort; died at his home in that city, July 4, from nephritis, aged 67.

Madana Fuller De Hart, M.D. New York Medical College and Hospital for Women, New York City, 186—; said to have been the first woman practitioner of New Jersey; founder of a free dispensary for women in Jersey City; for several years a member of the board of managers of the State Home for Girls; died at her home in Mount Freedom, N. J., June 22.

Linus Shephard Ludington, M.D. Metropolitan Medical College, Eclectic, New York City, 1854; adeundem Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; a veteran of the Civil War; a member of the common council of New Britain in 1873; said to have been the oldest practitioner of Connecticut, died at his home in New Britain, July 3, aged 92.

John Frederick Sprink, M.D. John A. Creighton Medical College, Omaha, 1906; a member of the Iowa State Medical Society; assistant professor of histology in his alma mater; president of the staff of Mercy Hospital, Council Bluffs, and secretary of the Council Bluffs Medical Society, was found dead in his office, July 2, from heart disease, aged 33.

Henry Van Tyle Passage, M.D. Rush Medical College, 1861; Bellevue Hospital Medical College, 1868; a member of the Indiana State Medical Association; formerly representative in the state legislature from Miami County; for four years secretary of the local pension board of Peru; died at his home in that city, June 15, aged 75.

George M. Haines, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association; for thirty-three years a practitioner and once mayor of Durand, Ill.; once vice-president of the Winnebago, County Medical Society, died in Grand Junction, Colo., July 5, from nephritis, aged 64.

Crown Torrence, M.D. University of Nashville, Tenn., 1898; a member and once second vice-president of the South Carolina Medical Association; formerly president of the Union County Medical Society; a specialist on diseases of the eye, ear, nose and throat, of Charleston, died at his home in that city, July 8, aged 36.

Jefferson Cooperrider, M.D. Cincinnati College of Medicine and Surgery, 1885; of Madison, Ind.; a member of the Indiana State Medical Association and a specialist on diseases of the nose and throat; a veteran of the Civil War; for many years secretary of the local board of health; died at his home, July 3, aged 72.

William D. Van Antwerp, M.D. Miami Medical College, Cincinnati, 1876; for several years a member of the local board of pension examining surgeons of Mount Sterling, Ky.; a veteran of the Civil War; died at his home, near Mount Sterling, June 28, from nephritis, aged 70.

Francis H. Mansfield, M.D. Long Island College Hospital of Brooklyn, 1893; chaplain of the One Hundred and Thirty-Second New York Volunteer Infantry throughout the Civil War; a clergyman since 1860; died at his home in Brooklyn, July 2, from cerebral hemorrhage, aged 76.

Daniel F. Summey, M.D. New York University, New York City, 1860; a surgeon in the Confederate service during the Civil War; one of the founders of the Buncombe County (N. C). Medical Association; died at his home in Leicester, June 13, from heart disease, aged 84.

Harry B. McKlveen, M.D. College of Physicians and Surgeons, Chicago, 1890; formerly of Coin, Iowa, and Junction City, Kan.; died in Los Angeles, Cal., January 21, from the effects of an overdose of chloroform, taken to relieve the pain of otitis media, aged 41.

Edward A. Hotchkiss, M.D. McGill University, Montreal, 1904; of Hartford, Conn.; a member of the Connecticut State Medical Society, and assistant secretary of the Hartford Medical Society, died in the Hartford Hospital, July 2, from typhoid fever, aged 28.

Lucy Hughes Brown, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1874; said to have been the only colored woman physician of South Carolina; one of the founders of Cannon Hospital and Training School in Charleston; died at her home, June 26.

Matthias Muhlhausen, M.D. Medical College of Evansville (Ind.), 1854; one of the founders of St. Mary's Hospital in that city; a founder, director and for twenty-seven years president of the Peoples Bank, died at his home in Evansville, July 3, aged 78.

Carl H. Lellmann, M.D. University of Göttingen, Germany, 1854; a member of the Medical Society of the County of New York, of New York City, consulting physician to the German and St. Francis hospitals; died in Karlsruhe, Germany, June 21, aged 79.

Stephen H. Barham, M.D. University of Louisville (Ky.), 1875; a veteran of the Civil War; for many years a member of the local district medical examining board, died at his home in Nacogdoches, Texas, June 30, from acute nephritis, aged 69.

Joseph H. Aleshire, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; for thirty-two years a practitioner of Plainville, Ill.; a member of the Adams County Medical Society, died at his home, June 24, from heart disease, aged 62.

Franciscus Brunning, M.D. Medical College of Ohio, Cincinnati, 1867; a member of the American Medical Association and one of the most prominent specialists on internal medicine of Cincinnati, died at his home in that city, July 9, aged 65.

James B. Eby, M.D. University of Pennsylvania, Philadelphia, 1886; formerly a member of the American Medical Association; president of the First National Bank of Newport, Pa.; died at his home, June 21, from locomotor ataxia, aged 71.

Charles W. Eastman, M.D. Detroit College of Medicine, 1904; a member of the American Medical Association, and a practitioner of Three Oaks, Mich.; died at Epworth Hospital, South Bend, Ind., July 4, from typhoid fever, aged 32.

Charles Park Donelson, M.D. University of Michigan, Ann Arbor, 1872; member of the American Climatological Association and Michigan State Medical Society; of Muskegon, Mich.; died at Hackley Hospital in that city, July 5, aged 64.

Jacob W. Wells, M.D. Rush Medical College, 1891; assistant physician to the Iowa Hospital to the Insane; surgeon of the Rock Island System and president of the board of health of Ossian, Iowa; died at his home from heat exhaustion, July 2, aged 43.

Ralph Ernest Gallinger, M.D. Dartmouth Medical School Hanover, N. H., 1897, of Concord, N. H.; a member of the American Medical Association; was killed in an automobile accident near Pembroke, N. H., July 11, aged 39.

John S. Laughead, M.D. Ensworth Medical College, St. Joseph, Mo., 1904; a member of the South Dakota State Medical Association; of Letcher; was drowned recently while wading in the James River, near Letcher.

Walter Silas Eldridge (license, years of practice, Maine) of Portland; for thirty-four years a practitioner of that state; a veteran of the Civil War; died in Groveton, N. H., June 17, from chronic bronchitis, aged 66.

Hamlet Hart, M.D. University of Michigan, Ann Arbor, 1878; died at his home in Eureka, Mich., July 12, from the effects of an abscess of the left kidney, followed by a general breakdown, aged 69.

William J. Bell (license Arkansas, 1903), of O'Neal; a member of the Independence County (Ark.) Medical Association; died at his home in Bethesda, March 11, from senile debility, aged 80.

William Oscar Prosser, M.D. McGill University, Montreal, 1874; of Eugene, Ore.; a member of the Oregon State Medical Association; died in Chicago, July 1, after a surgical operation, aged 50.

James E. Gross, M.D. Hahnemann Medical College, Philadelphia, 1850; for many years a practitioner of Chicago; died in Washington, D. C., July 9, from cerebral hemorrhage, aged 85.

Eliry M. Marshall, M.D. Eclectic Medical Institute, Cincinnati, 1897; of Albion, Pa., was killed instantly, June 25, in a collision between his automobile and a freight train, aged 33.

Robert J. Steele, M.D. Louisville (Ky.) Medical College, 1888; a member of the Arkansas Medical Society, died recently at his home in Morrillton, and was buried, June 20, aged 47.

Henry F. Horstman, M.D. University of Pennsylvania, Philadelphia, 1873; a director of St. Vincent's Orphan Asylum, died at his home in Philadelphia, July 5, aged 65.

Leonidas Bruce Arnold, M.D. Bellevue Hospital Medical College, 1871; formerly a surgeon in the Army; died at his home in Omaha, July 4, from heat exhaustion, aged 65.

William George Fitzsimmons, M.D. Baltimore Medical College, 1904; a member of the Ohio State Medical Association; died at his home in Steubenville, June 26, aged 26.

W. I. Beamer, M.D. University College of Medicine, Richmond, Va., 1896; of Laura, Ill.; died in Proctor Hospital, Peoria, Ill., July 6, from nervous disease, aged 38.

Gordon B. Meldrum, M.D. Denver (Colo.) College of Medicine, 1899) of Buffalo, Wyo.; died suddenly in Omaha, July 7, after an operation for appendicitis, aged 37.

Robert H. Gantt, M.D. University of Maryland, Baltimore, 1909; first lieutenant, Medical Corps, U. S. Army, died at Fort Sam Houston, Texas, June 11, aged 28.

Alexander C. Paisley, M.D. Western Reserve University, Cleveland, 1893; died at his home in Cleveland, July 2, from disease of the throat, aged 41.

I. M. Selby, M.D. (license, years of practice, Iowa, 1886); for many years a practitioner of Elliot, died at his home in Odebolt, June 10, aged 61.

John Ward Hill, M.D. Jefferson Medical College, 1857; died at his home in St. Petersburg, Fla., June 17, from cerebral hemorrhage, aged 75.

John I. Bradley, M.D. University of Louisville (Ky), 1886; died at his home in Camden, Tenn., June 24, from cerebral hemorrhage, aged 61.

William L. Hockaday, M.D. Jefferson Medical College, 1866; died recently at his home in Richmond, Ky., and was buried, June 15, aged 64.

Thomas H. Wilde, M.D. Long Island College Hospital, Brooklyn, 1906; died at his home in Baldwin, Long Island, July 4, from pneumonia.

Duncan M. Broach, M.D. University of Tennessee, Nashville, 1897; of Coupland, Texas; was shot and killed at Mumford, Texas, June 26.

Susan Silver Diffenbacher (license, Iowa, years of practice, 1888); died at her home in Creston, July 2, from tuberculosis, aged 64.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

IODONUCLEOID

An Iodin Product Under a Misleading Name

To the Editor:—Please give me information with regard to iodonucleoid. A friend of mine with disease of the internal ear writes me that he is taking twelve pills daily without upsetting his stomach. I suspect that the medicine, like most iodin preparations, is a fraud, but find it purports to be recommended by physicians, as you will see from enclosed circular.

GEORGE MINGES, M.D., Lakeside, Cal.

As iodonucleoid does not appear in New and Nonofficial Remedies, the Association laboratory was asked to report as to the nature of this preparation. The following is its reply:

This preparation was at one time considered for inclusion with New and Nonofficial Remedies, and at that time it was examined in this laboratory. The examination showed that iodonucleoid contains:

Phosphorus	0.79 per cent.
Calcium	0.43 per cent.
(Equal to 0.6 per cent. CaO).	
Iodin	24.2 per cent.

When 2 gm. was dissolved in tenth-normal potassium hydroxid volumetric solution and acetic acid added until faintly acid, an abundant, white, flocculent precipitate formed. This precipitate was collected, washed with water, transferred to a beaker, phenolphthalein added and tenth-normal potassium hydroxid volumetric solution run in until a pink color was produced. This required 15 c.c. of tenth-normal alkali. Subtracting from the 2 gm. of iodonucleoid the 24 per cent. iodin, leaves 1.52 gm.; this divided by the c.c. of alkali used indicates an equivalent weight of 1013.

Authorities differ widely regarding the amount of phosphorus contained in nuclein from different sources, the figures ranging from 2.9 per cent. to as high as 10 per cent. If the nuclein from which iodonucleoid purports to be made contained but 2.9 per cent. phosphorus, the preparation, after allowing for 24 per cent. iodin, should still contain 2.2 per cent. phosphorus instead of 0.79 per cent., as found by analysis. A true nuclein should contain no calcium. If iodonucleoid is a casein compound of iodin we might expect to find, if the casein had been freed from milk by acidulation without further purification, both calcium and phosphorus. The equivalent weight of casein is given by Long (*Jour. Am. Chem. Soc.*, 1906, xxviii, 372) as 1124. This figure was obtained on a casein of high purity, and the figure of 1013 given above agrees fairly well with Long's figure for casein. The evidence, therefore, indicates that iodonucleoid is a compound of iodin and casein, and not a nuclein compound.

The findings of the laboratory were at that time submitted to Prof. John H. Long of Northwestern University, who said:

> "We have also made a number of examinations of iodonucleoid. We determined in it the iodin and found the amount 24.2 per cent. by weight, which is a little more than that claimed by the manufacturer. We have also tested the solubility of this substance and find it to behave about as your laboratory did. As you know, we have been making a number of preparations from casein, and recently we have determined the combining power of casein with various acids, including hydriodic acid. This acid when evaporated in moderately strong solution with casein yields finally a hard, dry mass, which may be ground up to a powder resembling very closely the preparation under discussion. Various amounts of iodin may be combined here, depending on the strength of the iodin solution used, and we have secured some containing over 35 per cent. of iodin. Several of these preparations resemble closely iodonucleoid, so far as solubility, appearance and reaction with alkalies on titration are concerned. I am unable, therefore, to distinguish this preparation from the casein compounds which we are making."

From this it would appear that iodonucleoid is not a compound of nuclein, as indicated by the name, but instead is a casein compound of iodin.

Iodonucleoid, then, seems to be another one of the many iodin "substitutes" which have been put on the market. Other iodin substitutes are Iodalbin, manufactured by Parke, Davis & Co.; Iodipin, manufactured by E. Merck & Co., and Sajodin, manufactured by the Farbenfabriken of Elberfeld Co. As these products have been examined by the Council and found eligible for inclusion with New and Nonofficial Remedies, physicians who wish to use substitutes for potassium iodid would do well to use them instead of a product presented under a misleading name. Physicians should understand, however, that these organic iodin compounds are non-irritating because the iodin is held in such combination that it is much less active. It seems probable that they are therapeutically active only to the extent that the iodin content is dissociated from the organic compound and converted into ionic iodin. A discussion of a number of iodin substitutes is found in an article by von Notthafft (*Monatsh. f. Prakt. Dermat.*, Oct. 15, 1910, p. 343), which was abstracted and commented on in THE JOURNAL, March 4, 1911, p. 685.

Von Notthafft believes that the lower degree of toxicity which these remedies exhibit has its basis in a feebler activity; either the substitutes evolve too little iodin or they split it off with greater difficulty. Physicians should, therefore, view with some distrust the claims of manufacturers that their products are not only non-irritating but at the same time possess unusual therapeutic efficiency. This will apply with especial force if there is any tendency to conceal the nature or origin of the combination.

AMEND IT

"The Supreme Court of the United States has done something to the Pure Food and Drugs Act never intended by Congress. Its recent decision in a test case means that any quack and faker can put up the most worthless stuff, label it a 'sure cure for cancer' and not be interfered with.

"And the worst of it is that the nostrums carry the phrase 'guaranteed under the Food and Drugs Act,' which is misleading to so many who believe that Uncle Sam has thus become sponsor for the alleged remedy.

"The law should be amended before it gives any further aid and comfort to liars and charlatans."—*Boston Post.*

Correspondence

Physicians Should Address the Public on Temperance

To the Editor:—A noteworthy movement marked the session of the American Medical Association at Los Angeles. This appeared first at the Atlantic City session three years ago, in the number of requests, from pastors of churches, to have visiting medical men address their people on the temperance question. Three or four physicians complied, speaking on the Sunday before the meeting and at special evening meetings during the week.

At St. Louis last year, these requests were more numerous and came from pastors of churches, philanthropists and persons interested in the temperance work, soliciting physicians to speak on the alcoholic problem in the various pulpits. I succeeded in placing seven physicians in the different pulpits, some of them speaking two and three times, on the various sides of the alcoholic problem. Two physicians spoke during the week at special meetings, in large churches.

At the Los Angeles meeting, the requests for services of this kind were very numerous and a dozen physicians would have been warmly welcomed in the various churches, where no doubt the temperance question has never been discussed before. Pastors and leading church members showed unusual interest to hear leading physicians discuss the temperance problem.

According to the daily papers, nearly twenty physicians spoke in the churches and various halls on hygienic subjects, including temperance and other great health questions.

I was both astonished at the requests for temperance talks from the different churches and societies, and embarrassed because of the fact that I could secure only four physicians

who were willing to make this the theme of these services. A few physicians with myself have been trying to rouse new interest in this subject among physicians, who of all should have no hesitation to speak on the alcoholic problem.

I could have found for more than a dozen physicians at Los Angeles, audiences who would have warmly welcomed talks on the alcoholic problem.

The impression started a few years ago has settled into a conviction that the leading members of the A. M. A. should give more accurate information on this great problem than others; and it is now expected that when they come into the neighborhood they will be asked to speak on these subjects.

The Association has practically recognized the great value of having the leading men speak on hygienic topics before, during and after the annual sessions. Of all subjects, the alcoholic problem is the most vital and intense, and the desire of the public to be instructed on this as well as other topics, is a great forward movement which the profession should be anxious to meet.

The future meetings of the A. M. A. will show further interest in this direction, and it would seem to be the highest kind of wisdom to anticipate this increased desire of the public, and to provide speakers for this and other great hygienic questions that are growing in the public mind.

T. D. CROTHERS, M.D., Hartford, Conn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON STREPTOCOCCI

To the Editor:—Please give references to the latest and best literature in English, German or French on streptococci, especially articles dealing with methods of staining and differentiation of the various varieties of streptococci. DUBLIN.

ANSWER.—The following list includes the most important articles that have appeared within the last eighteen months:

Albrecht: Ueber einige Eigenschaften des Streptococcus equi, *Ztschr. f. Veterinärk.*, 1910, xxii, 441.

Buchanan, R. E., and Truax, R.: Non-Inheritance of Impressed Variations in Streptococcus Lacticus, *Jour. Infect. Dis.*, 1910, vii, 680.

Rickmann: Zur Frage der Identität der Erreger des Schweinerotlaufs des Erysipeloids und der Mäuseseptikämie, *Ztschr. f. Hyg. u. Infektionskrankh.*, 1909, lxiv, 362.

Hamm, A.: Bemerkungen zu Fromme's Differenzierungsverfahren der Streptokokken mittels Lezithinbouillon, *Zentralbl. f. Gynäk.*, 1910, xxxiv, 278.

Boughton, T. H.: Infections of Homologous Streptococci Killed by Galactose in the Treatment of Suppurative Complications of Contagious Diseases, *Jour. Infect. Dis.*, 1910, vii, 99.

Todd, D. D.: A New Color Medium for the Isolation and Differentiation of Streptococci, *Jour. Infect. Dis.*, 1910, vii, 73.

Winslow, C. E. A., and Palmer, G. T.: A Comparative Study of Intestinal Streptococci from the Horse, the Cow, and Man, *Jour. Infect. Dis.*, 1910, vii, 1.

Arzt, L.: Zur Kenntnis des Streptococcus mucosus und der von ihm verursachten Krankheitsformen, *Centralbl. f. Bakteriol.*, 1910, liv, 394.

Lignieres, J.: Quelques notes à propos du streptocoque de Schütz; considérations générales sur la qualité pathogène et la différentiation des microbes d'un même groupe, *Arch. f. wissensch. u. prakt. Tierh.*, 1910, xxxvi, Suppl. vol., 283.

Traugott, M.: Zur Differenzierung von Streptokokkenstammen durch Frommes Lezithinverfahren, *Ztschr. f. Geburtsh. u. Gynäk.*, 1910, lxvi, 331.

Hoessli, H.: Das Verhalten der Streptokokken gegenüber Plasma und Serum und ihre Umzuchtung, *Centralbl. f. Bakteriol.*, 1910, lv, 135.

Zangemeister, W.: Ueber Verbreitung der Streptokokken im Hinblick auf ihre Infektiosität und ihre hämolytische Eigenschaften, *München. med. Wchnschr.*, 1910, lvii, 1268.

Swift, H. F., and Thro, W. C.: Study of Streptococci with the Complement Fixation and Conglutination Reactions, *Arch. Int. Med.*, January, 1911; abstr. in THE JOURNAL, Feb. 25, 1911, p. 621.

Mächtle, H.: Differentiation of Hemolytic Streptococci by Lecithin Bouillon, *Zentralbl. f. Gynäk.*, March 11, 1911.

Schleissner, F., and Spät, W.: Differential Bactericidal Properties of Leukocytes in Respect to Streptococci, *Jahrb. f. Kinderh.*, March, 1911.

Metzger, D.: Hemolytic Streptococci in Puerperal Infection, *Presse méd.*, April 15, 1911; abstr. in THE JOURNAL, May 27, 1911, p. 1621.

REMOVAL OF TATTOO MARKS

To the Editor:—Please describe in detail a method for removing tattoo marks from the human body. A. L. CESARE, New York.

ANSWER.—This question has been answered before in this department of THE JOURNAL and it is answered in text-books on skin diseases (Pusey, for example); but as we have recently received several requests for this information we give the details below:

The principle of treatment of these marks is to excite an inflammatory process by means of chemical irritants so as to cause destruction of the superficial layers of the skin. Two methods have been devised, the method of Variot and the method of Brault.

Variot's plan of treatment, according to Brocq, is as follows: First, he places on the tattoo marks a concentrated solution of tannin, and tattoos this in. Then a silver nitrate pencil is rubbed vigorously over the surface until the surface becomes black from the formation of silver tannate in the superficial layers of the skin, and the surface is then washed with water. In the next few days a slight inflammatory reaction occurs, and over the surface treated a closely adherent dark crust forms. After the third or fourth day there is no pain except when there is movement of the muscles under a large crust. Occasionally there is a little suppuration under the crusts, but if secondary infection is avoided no severe inflammation occurs. After fourteen or sixteen days the crust comes off spontaneously, the corium and the epidermis underneath have been repaired, and the locality of the mark is recognizable only by a superficial pink cicatrix which gradually becomes of normal color. A couple of months after the operation the scar is hardly noticeable.

Brault's method of removing tattoo marks consists in tattooing the region, previously rendered aseptic, with a solution of 30 parts of zinc chlorid to 40 parts of water. The needles with which the tattooing is done are dipped in this solution and the surface is lightly moistened with the same solution after the tattooing. If properly done the resulting inflammation is slight and after a few days, there forms a superficial crust which remains about a week and then falls, leaving a slight, eventually almost imperceptible, scar. This method succeeds in a few cases but requires skill and care in its application in order to obtain good results and to avoid suppuration and deep cicatrization.

ETHER RAUSCH IN CANADA

To the Editor:—I was interested to know that the so-called ether *Rausch* was not generally known to practitioners in America. Dr. Frank Buller, late professor of ophthalmology at McGill University, taught this method to every student that sat under him. He used an aluminum cone covered with stockinet and plugged with gauze saturated with ether. The patient administered the anesthetic to himself and when he was anesthetized the cone fell to the floor. Dr. Buller insisted that the method was absolutely safe for operations in the erect (sitting) position and he used it for all short operations on the eye or ear. All McGill students for the past twenty-five years have been instructed in the method, whether they have used it or not.

MALCOLM MACKAY, Sherbrooke, Quebec, Canada.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 8, 1911.

Waterhouse, S. M., major, relieved from duty at Fort Washington and ordered to Fort H. G. Wright, N. Y., for duty.

Williams, A. W., captain, relieved from duty at Fort H. G. Wright, N. Y., and ordered to Philadelphia, as attending surgeon.

Woodbury, F. T., granted twenty days' extension of leave.

Wales, P. G., major, twenty days' leave of absence, to take effect on completion of examination for promotion, granted.

Baker, F. C., major, granted leave of absence for three months from Aug. 5, 1911.

Bayly, R. C., first lieut., relieved from duty in the Philippine Islands and ordered to San Francisco on the transport to sail from Manila Oct. 15, 1911, and report to the adjutant general of the Army for further orders.

Perley, H. O., colonel, ordered to proceed to Fort Leavenworth, Kan., and report in person to the commanding officer for duty.

The following named officers of the M.R.C., recently appointed, are ordered to active duty in the service of the United States and will proceed to stations named below and report to the commanding officer for duty, and by letter to the commanding general of the department: Burnett, T. W., to Fort Slocum, N. Y.; Meehan, J. W., to Fort Howard, Md.; Poust, L. R., to Fort Jay, N. Y., and Ingold, J. G., to Fort Wayne, Mich.

Phillips, H. A., first-lieut., ordered to former station when *Sumner* is placed out of commission.

Koyle, F. T., M.R.C., ordered to former station when *Kilpatrick* is placed out of commission.

Walker, T. C., M.R.C., ordered to former station when *McClellan* is placed out of commission.

Crampton, L. W., colonel, after arrival in New York City, and on expiration of leave of absence, will proceed to this city and report to the adjutant general of the Army for further orders.

Baker, C. R., M.R.C., ordered to active duty, and will proceed to Fort Hancock, N. J., July 10, 1911, and report to the commanding officer for duty.

Nichols, H. J., captain, left Army medical school on thirty days' leave.

Austin, T. C., lieut., left from duty at Yuma, Ariz., on thirty days' leave.

Ashford, B. K., major, relieved from present duty and will report to the governor of Porto Rico as aide.

Gunckel, G. I., D.S., relieved from duty at Fort McPherson, Ga., and ordered to Fort Barrancas, Fla., for duty.

Roberson, H. M., first-lieut., relieved from duty at Army medical school in this city.

McMillan, C. W., first-lieut., relieved from duty at Army medical school in this city.

Rhoades, T. L., major, will proceed to Fort McHenry, Md., and accompany the 142d Co. C. A. C. to San Francisco, and then return to his proper station.

Ragan, C. A., captain, ordered to report to the president of the examining board, Army Museum Building, Washington, D. C., for examination to determine his fitness for promotion.

Reynolds, Royal, first-lieut., ordered from general hospital, presidio of San Francisco, to report to the medical superintendent, Army transport service, this city, and assume duties of surgeon on transport *Sherman* en route to Manila, and report on arrival to commanding general, Philippine Division.

Connor, C. H., captain, ordered to report to commanding officer, 1st Battalion, 5th Field Artillery, presidio of San Francisco, for duty with that command, en route to Fort Sill, Okla., and on completion of this will return to his station, Maneuver Division, San Antonio, Texas.

Anderson, E. A., M.R.C., granted leave of absence for three months, to take effect on or about Aug. 1, 1911.

Church, James R., major, detailed as inspector and instructor of the medical corps and hospital corps, organized militia of New York, at coast defense exercises, July 5-August 7, and State of Maine, July 17-26.

Little, William L., captain, detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of Rhode Island, during coast defense exercises, July 9-16.

Bartlett, C. J., captain, detailed as above with organized militia, State of Massachusetts, July 9 to 16, 1911.

Geddings, E. F., major, detailed as above with organized militia of State of Maryland, July 15 to 24, 1911.

McAndrew, P. H., major, detailed as above with organized militia, State of Connecticut, July 20 to 29, 1911.

Reno, William W., detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of New Hampshire, during the coast defense exercises, Sept. 5 to 12, 1911.

Stone, F. P., D.S., left from temporary duty at Fort Rosecrans en route to station at Army general hospital, San Francisco.

Birmingham, H. P., colonel, promoted to rank from June 7, 1911.

Fisher, Henry C., lieut.-col., promoted to rank from June 7, 1911.

Bartlett, Cosam J., major, promoted to rank from June 7, 1911.

Medical Corps, U. S. Navy

Changes for the week ended July 15, 1911.

Eator, W. E., asst.-surgeon, detached from the *North Dakota* and ordered to the *Virginia*.

Pollard, J. B., asst.-surgeon, detached from the *Virginia* and ordered to the *North Dakota*.

Gardner, J. E., medical director, commissioned medical director from June 2, 1911.

Crandall, R. P., surgeon, ordered to the *Franklin*.

Plummer, R. W., surgeon, detached from the *Franklin* and ordered to the naval training station, North Chicago, Ill.

Miller, J. T., P. A. surgeon, detached from the *Franklin* and ordered to the Navy yard, Norfolk, Va.

Zalesky, W. J., P. A. surgeon, ordered to the *Franklin*.

Riker, G. A., asst.-surgeon, detached from the *Louisiana* and ordered to the *Dixie*.

Field, J. G., medical inspector, detached from the Navy yard, Norfolk, Va., and ordered to command the naval hospital, naval training station, North Chicago, Ill.

Kaufman, J. B., P. A. surgeon, detached from the Navy yard, Norfolk, Va., and ordered to the *Louisiana*.

Byrnes, J. C., medical director, commissioned a medical director in the Navy from June 11, 1911.

Reed, E. U., P. A. surgeon, detached from duty on the *Princeton* and ordered to duty at the naval station, Tutuila, Samoa.

Biello, J. A., P. A. surgeon, commissioned a passed assistant surgeon in the Navy from April 11, 1911.

Lanning, R. H., asst.-surgeon, appointed an assistant surgeon from June 21, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 12, 1911.

Francis, Edward, P. A. surgeon, directed to proceed to Auburn, N. Y., on special temporary duty.

Creel, R. H., P. A. surgeon, granted seventeen days' leave of absence from July 15, 1911.

Roberts, Norman, P. A. surgeon, granted nine days' leave of absence from June 22, 1911, on account of sickness.

de Valin, Hugh, P. A. surgeon, granted fourteen days' leave of absence from June 28, 1911, on account of sickness.

Friedman, H. M., A. A. surgeon, granted twenty-one days' leave of absence from July 15, 1911.

surgeon, leave of absence for thirty days Light, S. D. W., A. A. from June 6, 1911, amended to read "twenty days from June 6, 1911."

Safford, M. V., A. A. surgeon, directed to make monthly visits to Providence, R. I., for the examination of arriving aliens.

Boards of medical officers convened to meet as soon as practicable to conduct medical surveys of officers of the Revenue-Cutter Service, as follows:

Fort Stanton, N. M. Passed Assistant Surgeon H. S. Mathewson, chairman; Passed Assistant Surgeon F. C. Smith, recorder.

San Francisco, Cal. Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon R. E. Ebersole, recorder.

Society Proceedings

AMERICAN ACADEMY OF MEDICINE

Thirty-Sixth Annual Meeting, held at Los Angeles, Cal., June 23-26, 1911

The President, DR. CHARLES S. SHELDON, Madison, Wis., in the Chair

A list of the officers that were elected at this meeting for the ensuing year was given in THE JOURNAL, July 15, 1911, page 228.

The Latest Improvement in Medical Education—The Prevention of Disease and the Prophylaxis of Health

DR. CHARLES STUART SHELDON, Madison, Wis.: The vast field of usefulness of a National Department of Health is clearly recognized by every intelligent physician; yet this most sensible measure has met bitter, and thus far, successful opposition. The magnificent work of Col. W. C. Gorgas is one of the most glorious victories of preventive medicine. As with yellow fever, so with malaria and typhoid. The crusade against tuberculosis illustrates the possibilities of accomplishment when once the people have learned the facts. Only recently has there been any thorough study of the prevention of infant mortality.

Dr. Abraham Jacobi of New York has shown that the industrial conditions in many of our communities are largely responsible for the high infant mortality. Thus the economic protection of the mother is of prime importance. It is obvious that some wisely planned system of compulsory medical school inspection should be legally instituted. The matter of adequate playgrounds for children also deserves attention. The intimate relation which the medical profession bears to the whole health propaganda shows that to secure the best results every physician should be a center of influence in all matters relating to health.

Eugenics of the Human Rate

DR. HENRY B. WARD, Urbana, Ill.: Disease, excess and war have been reducing factors in human evolution, but are fast disappearing. The energies of philanthropy have been directed to the improvement of external conditions, but the determining factor is found in the blood. The result of any external influence depends on its nature, but also on the character of the protoplasm on which it works. A eugenics record office is collecting data concerning inheritance in American families, and various committees are studying the facts concerning the heredity of defectives and delinquents. Investigations show that the classes of our population characterized by their effectiveness are not maintaining their present numbers, while the most undesirable classes, including defectives and degenerates, have increased markedly in the last fifty years. Perpetuating and strengthening effective lines must be secured by improving the blood. Eugenics proposes to point out means by which the worthless elements may be reduced and the unfit eliminated.

Some of the states already limit the propagation of criminals and degenerates, but the state must safeguard marriage further by adequate legislation concerning marriage permits. A nation must encourage the higher development of its best elements if it hopes to continue its existence and perpetuate its high standing.

Teaching Preventive Medicine in Universities and Normal Schools

DR. HENRY B. HEMENWAY, Evanston, Ill.: Preventive medicine is not taught in a thorough manner in the majority of medical schools. There are few competent to take positions as professors of public health in universities. There is also the obstacle of finance. The Massachusetts Institute of Technology is probably giving better instruction in this regard than any medical school in America. It would seem that instruction can best be given in a lecture course open to the

entire student body. If possible, some credit should be given for attendance and for work in the laboratory and seminary.

DISCUSSION

PROF. HENRY B. WARD, Omaha: The first reason why this work is not done is that there is no organized plan, and a more important difficulty is that there is no demand for such a course. Until such demand comes we shall not make very great headway.

DR. EDWARD JACKSON, Denver: In the University of Colorado a course in preventive medicine has been given which has been attended by nearly all who can arrange for the hour. As Dr. Ward has said, we cannot expect university authorities to take much interest until something definite is formulated.

Should We Expect More than Mediocrity from the Medical Profession?

DR. FRANCIS M. POTTENGER, Monrovia, Cal.: The one thing which American physicians as a whole lack in comparison with their colleagues across the water is a good preliminary training, not only in the branches underlying the foundation of medicine, but in the foundation of medicine itself. American medical literature, however, shows a keen application of principles and an ability to produce results. No matter how high the entrance requirements for our medical schools or how stringent the final examinations, many men, doomed to be failures in their chosen profession, will find their way into the ranks of medicine. All professions and branches of business have their leaders and geniuses, but it must be remembered that the great majority of us follow our leaders at a great distance. That the raising of the standard of our profession offers better medical service, we have every reason to believe, but that a high standard of medical education can guarantee a general service beyond that mediocre standard is open to question. No amount of training can overcome the difference in capabilities of men. The best can be had only from those who are able to give it, and must come by close cooperation and consultation between the members of our fraternity who are able to give the best and those who are not.

Publishing Details of Suicides in the Public Press

DR. HENRY B. HEMENWAY, Evanston, Ill.: Alienists are practically unanimous in the opinion that the suggestive effect of reading of details of suicides is a powerful factor in the causation of suicides among susceptible individuals. Newspaper men, while not denying the truth of the claim, reply that it is the province of the papers to publish the news. Attempts at legislation are practically useless unless preceded by a general demand on the part of the public. A statistical study is given which shows a continual increase in the death-rate from suicide, aggregating 60 per cent. in the nine years ending 1908. Not only is the suicide rate increasing, but it constituted 1.2 per cent. of all deaths reported in 1909. Geographically, the crime is not uniformly distributed. Nationality also has a bearing. It is found that those engaged in such occupations as keep one active physically are little prone to the act, except soldiers and sailors. If papers persist in publishing scandals, homicides and suicides, why not confine such pernicious matters to a separate sheet of distinct yellow color? We as defenders of the health and morals of the communities request the press of America to refrain from further publication of such affairs. On the estimated average value of a human life at $3,000, the loss from suicide in this country in 1908 was $24,996,000.

Neurotic Books and Newspapers as Factors in the Mortality of Suicide and Crime

DR. EDWARD BUNNELL PHELPS, editor of the *American Underwriter:* The founder of the modern system of vital statistics, Dr. William Farr, seventy years ago expressed the deliberate opinion in one of his official papers that "some plan of discontinuing, by common consent, murder and bloodshed in the newspapers is well worthy the attention of their editors."

The Press and Crimes Against the Person

DR. FRANCES FENTON, Mt. Holyoke, Mass.: In the study of newspapers made by me, including an analysis of approximately fifty-seven different papers from different sections of the country, the average percentage of news alone which should be withdrawn from the columns was 23.02 for the highest and 7.94 for the lowest. The average percentage of all kinds of antisocial matter, excluding advertisements, in the entire paper which should be removed is 8.11. Bills bearing on this subject have been introduced in some of our state legislatures. The Church bill, prohibiting the publication in newspapers of any detailed account of crime, passed both houses of the Illinois legislature and went up to the governor at the recent session. The press has threatened to make it a dead letter if it becomes a law. This indicates that we must look to the quality of our judges and to an educated public.

The Newspapers and Crime

DR. WILLIAM S. WADSWORTH, Philadelphia: From my professional study of the subject I have no hesitation in pointing out that newspaper accounts of crime influence those who commit crime. We are having just at this time an epidemic of cyanid poisoning that we predicted would result from the lurid newspaper accounts of a crime committed some months ago. It is for the protection of those accidentally potential and the congenitally defective that we plead for methods of prevention. The fight is not against the press as such, but against its pollution.

Present Magnitude of Altruistic Medical Effort in the Far Orient

DR. CHARLES MCINTIRE, Easton, Pa.: When one reads that the first medical missionary in China, Dr. Peter Parker, opened an ophthalmic hospital in Canton in 1835, securing one patient the day after its opening, and then turns to reports submitted to the Edinburgh Conference last year, and learns that there are now 207 hospitals in China that treated 58,757 in-patients for the year of the report, one begins to realize the healthy growth of the movement and to gain some idea of its present magnitude. We also learn that in Korea, Japan, the Chinese Empire, Siam and French Indo-China, the Dutch East Indies and India there are 716 missionary physicians, 410 hospitals and 681 dispensaries. The cost per patient a year is $8.40. Our study seems to show it to be a big thing and a good thing, and, as such, demands the intelligent and sympathetic cooperation of the profession at home.

Contagious Diseases in Schools

DR. ERNEST BRYANT HOAG, Berkeley, Cal.: The principal points to be considered in relation to contagious diseases in schools are: 1. The direct effect of the diseases themselves. 2. The direct or indirect effects of such diseases in producing "physical effects." 3. The relation of these diseases to retardation and elimination. 4. The cost to the school department through decrease of average daily attendance, on which appropriations are often in part based. 5. The cost to the family for medical treatment, nurses, etc. 6. The cost to the individual through general lowered vitality or direct physical disability of one sort or another.

At Berkeley by a cross-checking method between the city health department and the school department contagious diseases are readily recognized and recorded. A contagious disease map is made of the entire city, and at a glance the focus of infection can be located. Various tables and curves are made indicating the contagious status of each school. Other tables and curves may be made, showing age, distribution of contagious diseases, mortality rate, time lost, cost of sickness to family or school, relation to weather or season, relation to ventilation in home or school, relation to vacations, and relations to any other things which may be deemed important or interesting. This paper particularly emphasizes the importance of accurately collecting data and exhibiting it as far as possible in a graphic form by means of charts and the plotting of curves.

Should There be Two Degrees in Medicine?

DR. HELEN C. PUTNAM, Providence, R. I.: Answers received to inquiries made on this point were as follows:

"The value of a two-degree system in medicine depends on what the degrees stand for. As a general proposition, I am in favor of having preliminary and secondary degrees in medicine, with the understanding that the secondary degrees are only to be granted after specific preparation covering a definite period, and with the further understanding that the details of such a system must be worked out only after careful deliberation." (Dr. George Blumer, Dean Yale Medical School.)

"I feel I am justified in saying that the University of Pennsylvania would distinctly favor the adoption of courses for advanced degrees for medical study—that in the pure sciences the school is now endeavoring to provide for such work in courses leading to the Ph.D. degree, and in the applied lines by special courses not intended for undergraduates for which special diplomas or certificates are given; and that any concerted effort in these lines will be received with sympathetic approbation." (Allen J. Smith, Dean Medical Department University of Pennsylvania.)

"Our faculty is just considering the question of offering an advanced degree in medicine for those of its graduates who continue to do good work after graduation. . . . To the young man who does good clinical work and who presents a thesis and passes an examination not earlier than two years after graduation, we are thinking of giving the degree of doctor of clinical medicine. To the young man who does correspondingly good work in preventive medicine we are thinking of giving the degree of doctor of public health. Of course, for scientific work the degrees of doctor of philosophy and doctor of science are open to all of our graduates, inasmuch as they are already bachelors of science or arts before they graduate. . . . The giving of these advanced degrees would be a reward for those who continue to do well and do honor to their alma mater." (V. C. Vaughan, Dean Medical Department, University of Michigan.)

"Theoretically, I should think that it would be a good thing in this country; but it seems to me that it would be impracticable to establish here on British lines. . . . If it were possible to introduce a second degree of medicine, corresponding to the degree of doctor of philosophy, such as . . . doctor of medical science, M.Sc.D., and make this something for students to work for, it would be both practical and worth while." (Charles L. Dana, New York.)

"I am greatly in favor of some advanced degree in medicine along the lines as indicated by your communication." (G. W. Crile, Cleveland.)

"I am a believer in a five-year medical course, leading to a degree of doctor of medicine, and that this fifth year should be added at the end of the present training of the best schools, as a clinical year, during which the student should busy himself with work as an intern in general surgery, internal medicine and obstetrics . . . . I doubt the advisability of giving the degree of doctor of philosophy for postgraduate work in medical specialties, as has been proposed by certain educators, and I would also be opposed to creating such new titles as doctor of public health, doctor of sanitary science and doctor of hygiene." (S. W. Lambert, Dean College of Physicians and Surgeons, New York.)

"I believe having two degrees would stimulate the younger members of the profession." (W. Jarvis Barlow, Dean of the Southern California Medical Department of the California State University.)

"It is to the elimination of the unfit among the prospective medical students and to the proper training of those accepted that we should primarily direct our efforts if we are to win for the doctorate of medicine the real respect that is its due. If, through the efforts of the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges, we can make the medical degree have a uniform and recognized merit, we may be able to as our legislative bodies for stamps that will readily distinguish us from our imitators and allow the public a more intelligent choice than is evidenced to-day. Nevertheless, it is reasonable to consider giving a degree for research work accomplished after the completion of a properly grounded medical education. The only proper basis for granting such degrees should be founded on high and uniform standards. Such degree, it would seem to me, should be something more distinguishing than another doctorate, and would have the same value for prospective medical teachers if we continue our present attitude toward research work as a preparation for advanced medical instruction." (Ray Lyman Wilbur, Executive Head Department of Medicine, Stanford University.)

Postgraduate Degrees in Medicine

DR. ANDREW STEWART LOBINGIER, Los Angeles: Before we can establish effective postgraduate courses of medical study we must entirely reconstruct our undergraduate schools of medicine. The first efforts should be directed to reducing the number of them to one-tenth of the present number in the United States. Were we to grant the bachelor degree in undergraduate course and reserve the doctorate in medicine for the completion of a course of postgraduate work leading up to the ultimate qualifications for the various specialties, it would be more consistent with the accredited value of these degrees. Students should determine early their special line of work, and after the completion of the undergraduate course with two years' general intern work in an accredited hospital, they should take at least three years' postgraduate work on the specialty of choice. During this time the student should be taught to determine his judgments on the principles which govern in medicine and surgery just as keenly and conscientiously as he enters on his technical research and clinical observations. If possible after taking his postgraduate degree, which should be a doctorate in his specialty, he should be required to spend one or two years at least as assistant to a master surgeon or other specialist before he may be licensed to practice his specialty. We are suffering from scattered energies, which eventually must be focalized into a few richly equipped and endowed centers of medical education. When this is accomplished we shall recognize and the people will accept the postgraduate degree in medicine as a mark of proficiency for the responsibilities of a special line of practice.

DISCUSSION

DR. CHARLES LYMAN GREENE, St. Paul: I think the adoption of the British system of giving a bachelor degree is absolutely impractical in this country. We made a mistake primarily in granting the doctor's degree which we did not justify, and I think we must abide by that mistake and be satisfied now with the attempt to build up our schools in order to justify the bestowal of an M.D. degree. Postgraduate degrees will come after much has been done in the improvement of our present medical schools. The Ph.D. degree might very well be granted to those men who have done special research in laboratory work. Later we may find it possible to grant postgraduate degrees which carry the idea of special proficiency along special lines. We are suffering tremendously at this time from ready-made specialists—from men who have no proper balance.

DR. ARTHUR E. HERTZLER, Kansas City: What we have yet to do is to find some way of eliminating the pseudospecialist. A man may take an indefinite course of postgraduate work, become an excellent qualified practitioner along some particular line, and still not be in any sense a research worker. To become a research worker the natural gift of imagination is essential, and I believe that only to the researchers should an advanced degree be granted.

DR. CHARLES D. LOCKWOOD, Pasadena: Primarily the good general practitioner is the product most needed and to which we as a profession are most strongly committed. The course in the average medical school will not adequately develop the research worker. There should be schools for men of special scientific ability where this development may be accomplished.

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-Fifth Annual Meeting, held at Waukesha, June 7-9, 1911

The president, DR. BYRON M. CAPLES, Waukesha, in the chair

The officers elected for the ensuing year were named in THE JOURNAL, June 24, 1911, p. 1890.

Relation of Physician to Public Campaign Against Tuberculosis

DR. HOYT E. DEARHOLT, Milwaukee: The Wisconsin Antituberculosis Association has made a close study of 1,200 case histories of living and dead consumptives for the purpose of determining the factors responsible for the spread of the disease. The reports give evidence of an amazing situation concerning the lack of proper diagnosis and treatment of the disease. More serious than this, however, is the lack of precise directions to patients and friends as to simple precautions necessary to prevent family and neighborhood infection.

DISCUSSION

DR. G. E. SEAMAN, Milwaukee: People are beginning to learn the fundamentals with respect to prevention and treatment of tuberculosis, and in many respects the physicians are lagging behind the people. No patient should be allowed to leave the physician's office without printed instructions as to future conduct.

DR. T. L. HARRINGTON, Milwaukee: We must remember that the statements of patients are often incorrect. Nevertheless, the physician seems to fail to realize his responsibility. I usually give my patients Dr. Lawrence Flick's optimistic book on tuberculosis to read.

DR. W. E. DUBB, Milwaukee: The prevention of tuberculosis is an intensely personal matter. It should come right home to all of us. Fumigation is too often carelessly and ineffectually

done, if done at all. The charge of gross carelessness on the part of many physicians is too true.

DR. G. WINDESHEIM, Kenosha: The physician is not sufficiently compensated for his labor of diagnosis, but it is his own fault. Make your examinations conscientiously and thoroughly and increase your charges accordingly. The patient will pay them willingly. The statements of patients are not exaggerated. Not 25 per cent. of the physicians in my territory give tuberculosis patients the thorough examination, attention and care that they deserve. Failure to tell the patient his true condition is wholly without excuse in the present day when tuberculosis frequently yields so readily to proper treatment. People are no longer afraid of the disease.

DR. C. H. STODDARD, Milwaukee: Pressure is being brought to bear by the people themselves, which will in the course of a few years change the situation. The people are becoming educated rapidly on the subject of tuberculosis, and physicians will be forced to give their patients necessary information and instruction.

DR. GEORGE H. FELLMAN, Milwaukee: We should not tell our patients that they have tuberculosis until we are certain of it.

DR. RICHARD C. CABOT, Boston: Dr. Dearholt's paper is an indictment against the whole profession. Practical examination should be required for registration. The presence of bacilli in the sputum is an evidence of advanced and not incipient tuberculosis. The latter must be diagnosed by physical signs and history. Printed matter is of no great value in instructing patients, requiring as they do a radical change of the patient's habits. The instruction must be personal. It often takes great moral and financial courage to tell a patient the truth, as the well-to-do leave town and the poor take to books of direction and cease their visits. Free dispensaries should be established under the charge of physicians who will devote their whole time to the early diagnosis and treatment of consumption. Such a municipal dispensary has been already established in Boston, and is doing excellent work.

The Venous Pulse and the Heart Sounds

DR. J. A. E. EYSTER, Madison: The existence of a third heart sound is not inconsistent with an absolutely normal heart. The second sound is found to follow the first in a much shorter time than occurs between the beginning of the first and second heart sound. The length of cardiac cycles tends to remain constant.

Essentials and Non-Essentials in Physical Diagnosis

DR. RICHARD C. CABOT, Boston: I desire to call attention to the following important points: In one instance the accidental finding of nodes on the scalp led to the postponement of a proposed operation for splenic anemia, and the change of diagnosis to syphilis. A headache coming on at a certain hour in the morning and disappearing at a certain hour in the morning with perfect regularity, is absolutely indicative of frontal sinus disease. Tophi in the margin of the ears are proof positive of the existence of gout. A routine throat examination is essential in all physical diagnosis. A peculiar satiny feel of the skin of the arm indicates alcoholism. Feeling the pulse in both wrists at the same time may enable you to make a diagnosis of aneurysm from inequality of pulses. The stethoscope and blood-pressure machines are the two most useful instruments of precision in making physical diagnoses. In pulmonary tuberculosis the proper study of inspirations gives us an earlier means of diagnosis than the study of expirations. In using the stethoscope means should be taken of eliminating the sounds produced by the fingers slipping on the stethoscope and the stethoscope slipping on the skin. To detect râles let the patient breathe in, breathe out, then cough. The bacilli of tuberculosis when found in the sputum afford evidence of advanced pulmonary tuberculosis. Grocco's sign is valueless. Percussion is valueless in determining the size of the heart. It is a difficult and useless procedure. Palpation, inspection and blood-pressure will give the information. Never diagnose heart disease on the evidence of the murmur alone. A large percentage of children have cardiac murmurs which are without significance. In diagnosing diseases of the abdominal viscera, full and extensive history is essential. Physical signs are often entirely wanting. Palpation of the abdomen is one of the most difficult and unsatisfactory methods of diagnosis. A warm bath makes palpation easier. In gastric examination the essential question is, can the stomach empty itself. It is important to determine the size of the stomach. There is no such disease as gastroptosis. Bismuth plus *x*-ray has not proved successful in the early diagnosis of cancer or ulcer in the viscera. The guaiac test for occult blood is sure and easy. A two-fold examination of urine should be made: (a) a collection of the 24-hour amount divided into day and night portions; (b) specific gravity. These two facts show the work of the kidney, and that is all you need. The only other tests necessary are for albumin and sugar. The search for casts is unimportant. The examination of the sediment is important. The colored paper test for hemoglobin is valuable. Pale people, as a rule, are not anemic and some people with red cheeks are anemic. It is rarely necessary to make a count of the red blood-corpuscles. But it frequently is necessary to count the white corpuscles. Lumbar puncture may give you an early diagnosis of meningitis. The newer methods of cardiac diagnosis have not as yet proved very valuable. The *x*-ray is not a necessary part of routine diagnosis. The *x*-ray should be left to the expert. It is a valuable means of diagnosing syphilitic lesions through examination of the shin bones.

Ileocecal Adhesions

DR. F. GREGORY CONNELL, Oshkosh: Kinks in the lower ileum, and membranous pericolitis are common in cases presenting symptoms of chronic appendicitis. Removal of these conditions has been followed by permanent relief in some cases in which appendectomy was not followed by improvement. They should always be looked for while operating for chronic appendicitis. In order to do so a large incision will be necessary. They are probably not of inflammatory origin, but due to ptosis of the cecum. When present they should be removed or corrected, and an effort made to keep the cecum up and out of the pelvis. It is not to be expected that this will relieve all such cases, but from a review of the literature and personal experience, it would seem rational to suppose that, when liberal abdominal incisions and correction of these conditions are more common, our remote results after operation for chronic appendicitis may improve.

DISCUSSION

DR. FRANKLIN H. MARTIN, Chicago: The Lane kink actually exists. Among other symptoms may be noted a serious anemia. Absolutely satisfactory results follow operation to straighten out the kink. During convalescence give patients fattening diet, and when the supporting bandage is removed keep them in the Trendelenburg position.

Medical Inspection of Schools

DR. RICHARD W. JONES, Wausau: Mandatory inspection of public schools is a most important matter. The system of inspection has been in vogue in Wausau for a year, and the outlook is very promising. The campaign is practically one of education.

DISCUSSION

DR. GEORGE P. BARTH, Milwaukee: Inspection of schools in Milwaukee was begun April, 1909. Since then ten physicians have been appointed as medical inspectors, and one dental inspector has been appointed. The results are gratifying. Hygienic conditions both in the school and in the home are greatly improved. Special attention is sought to be given to mental and physical defectives; to the establishment of outdoor schools; to the proper seating of children; segregating the especially backward and exceptionally brilliant pupils, and giving proper school facilities for the exceptional students. Special study is given to truancy, its cause and cure.

DR. C. R. BARDEEN, Madison: The need of medical inspection in the schools is shown in the examination of students for admission to the university. The medical inspector reports that only 25 per cent. of the young men and 6 per cent. of the young women are perfectly normal. Because of ignorance of the importance of medical inspection, the public is rather niggardly, and should be educated to the importance of being

willing to pay liberally for the protection of public health, and not require this protection, as at present, to be in the nature of practically a free gift from the medical profession to the public. The University of Wisconsin will start next year a course for public health officers.

DR. CHARLES S. SHELDON, Madison: The school should be a place where health is promoted, not a place, as is too often the case, where health is threatened and disease contracted. The economic waste resulting from our carelessness is enormous. There should be ultimately a state medical inspector to systematize the work and give proper instruction. Local inspectors in places of considerable size should devote their whole time to the work and should be well remunerated therefor.

DR. JOHN M. BEFFEL, Milwaukee: The time for the State to begin the medical inspection of the child is at the beginning of the child's life, and the state should not wait until the child enters school at the age of 5 or 6 years. The State controls the child so far as contagious diseases are concerned, yet only 8 per cent. of the children under 5 years of age suffer from contagious diseases. If the State could follow the child through the first year of its life, it could control the 50 per cent. death-rate of preventable diarrheal diseases, and reduce it almost to zero. Men and women are trained for every occupation except fatherhood and motherhood.

Relative Value of Diuretics

DR. A. S. LOEVENHART, Madison: Theobromin sodium salicylate, theophyllin sodium salicylate, sodium acetate and urea are all suitable for intravenous use in man, and their use presents many advantages. It is recognized, of course, that diuretics are really of use only in tiding over a crisis.

DISCUSSION

DR. L. M. WARFIELD, Wauwatosa: We must remember that knowledge of the diuretic properties of drugs gained by experiments on healthy animals is by no means applicable to human beings with diseased kidneys. I have used 10 grains of urea intravenously with no ill effects. It is exceedingly soluble in water. My impression is that it has not proved to be a very valuable diuretic. Theosin sodium acetate has produced better results, and I have given it in doses as high as 5 grains. It is not very soluble in water, however. It is apparently a valuable diuretic when given intravenously.

The Present Understanding of Rheumatoid Conditions

DR. JOEL E. GOLDTHWAIT, Boston: The failure to achieve success in the treatment of chronic ailments is a reproach to the medical profession. But the time is coming when chronic as well as acute diseases can be cured. Joint manifestations are symptoms merely of disease in various parts of the body. We must find the source of the disease, then the symptoms will take care of themselves. Rheumatism is a term we use when we do not want to bother to find out what the real trouble is. We must endeavor to learn the specific cause of the symptoms of these rheumatoid conditions. And, first, there is the large class of cases resulting from not using the body right, and which are really simple strains. Another class covers true gout, which can be diagnosed to a certainty by the presence of tophi. In this manner we proceed until we have covered the real diseases grouped under the shadowy term. Pursue no treatment that is not based on etiology and pathology.

Always remember that it is not the joint that is the disease. It is merely the expression of a disease in some other part of the body. Listen patiently to the history. It will often afford a clue. Forget the word diathesis. Direct conditions are not inherited. Possible sources of infection are (1) the skin, (2) the genito-urinary tract or a local lesion therein, (3) nose and throat and accessory passages, (4) the alimentary canal, which is the most serious, frequent and difficult source of infection. I had a case some time ago of a woman suffering from bronchitis and badly crippled with arthritis. She was operated on for antrum and frontal sinus conditions, whereupon her bronchitis and rheumatism promptly disappeared. The bronchial and joint conditions were caused by the focus of pus in the antrum overflowing, dripping down and poisoning her bronchi and joints. I recall a case of "rheumatism" cured by removing an ulcerated tooth.

Rabies in Wisconsin and Its Control

DR. MAZYCK P. RAVENEL, Madison: Rabies is becoming more prevalent throughout the United States. Wisconsin has suffered severely during the last three years. The outbreak entered from the south, apparently beginning at Beloit and worked steadily northeast, with scattering cases in the western part of the state. A large number of farm animals have been lost. Laboratory examination of dogs who have bitten people shows about 50 per cent. of them rabic. Pasteur treatment was begun by the Wisconsin State Hygienic Laboratory and State Board of Health in November, 1909. Many patients were treated with uniform success. Lack of muzzling laws makes control difficult in our state and throughout the country.

MEDICAL SOCIETY OF NEW JERSEY

One Hundred and Forty-First Annual Meeting, held at Spring Lake, June 13-15, 1911

The President, DR. THOS. H. MCKENZIE, Trenton, in the Chair

The list of officers elected was given in THE JOURNAL, July 15, 1911, page 226.

The Education of a Surgeon

DR. JOSEPH A. BLAKE, New York City: In our present school and hospital organizations there is no provision for systematic training of surgeons. The education of a young surgeon is carried out well and methodically up to the end of his intern service in a hospital. He is then left to his own resources until he gets a hospital appointment as visiting surgeon. The period between his intern service and his acquirement of a visiting position averages at least five years, the years that are the most impressionable and therefore the most valuable in the receptive sense. Even when he becomes a visiting surgeon his services are short and spasmodic and until he acquires a large private practice his experience is in no way continuous. To remedy this state of affairs it is proposed in the large hospitals having continuous services to create, as it were, a postgraduate course of six years. For this course, men would be selected from the outgoing surgical house staff of the hospital and would each serve one year as assistant resident, one year as resident, two years as assistant visiting surgeon with assignment of duties in the laboratories of surgical pathology and experimental surgery in addition to duty in the wards and operating room, and two years as assistant visiting surgeon with duties in the out-patient department as well as the wards and operating rooms. In these last two years the appointees should also be demonstrators of anatomy in a medical school. It is obvious that such a course could only be carried out to the best advantage in a university hospital. The full organization of a surgical staff of such a hospital for 100 beds should be a chief, or director of the surgical staff; a visiting surgeon, two associate visiting surgeons, all of which would hold permanent positions; and four assistant visiting and two resident surgeons constituting the rotating members of the staff, as above described. It is believed that such an arrangement would be of great benefit to the institution as well as to the young surgeons. The latter would get a splendid experience, in surgery, pathology and anatomy, and should be able to fill with credit any hospital position to which they might be called.

Two Cases of Splenectomy

DR. JOHN C. MCCOY, Paterson: In both my cases of extirpation following traumatism of the spleen, eighteen months and seven months after operation, respectively, the general condition seems to have remained as good as it was prior to the loss of the organ. Both patients have gained in weight and are able to take part in athletic exercises. During the past three years, I have seen four cases of rupture of the spleen, two of which could be attributed to direct violence. Removal of the spleen was followed by a fatal result in one of these cases.

Chronic Gastritis of Secondary Origin, Presenting the Phenomenon of Achlorhydria Hemorrhagica Gastrica

DR. JAMES T. PILCHER, Brooklyn: Observations were made from examinations in a series of 4,000 patients. Of this number, 271 presented lack of free hydrochloric acid and presence of occult blood. In 156 of these patients the onset of the gastric symptoms was traceable to certain infectious diseases, circulatory disturbances, derangement of ductless glands, and various forms of abdominal operations; in 100 others, the symptoms of extra-gastric pathologic conditions were evident, and exploratory operations were done, revealing distinct involvements of the appendix in 36, of the gall-bladder in 32, of the gall-bladder and pancreas together in 16, and of the gall-bladder and appendix together in 12. Of the 100 patients with achlorhydria hemorrhagica gastrica operated on, in 24 there was a distinct spasm of the pylorus, accompanying appendicitis 18 times and gall-bladder involvement 6 times. Insufficiency of hydrochloric acid is a reflex nervous phenomenon. The conclusion that the gastric lesion is not the causative factor is supported by the fact that in 88 of the 100 abdominal explorations in which there was direct exploration and palpation of the stomach no gross change in the stomach walls could be demonstrated. Bacterial flora are a second factor in the production of this symptom. Large numbers of bacteria are always present in the fluids extracted from these stomachs. Streptococci, diplococci and colon bacilli are almost always found. The growth of these bacteria is dependent solely on the lack of the inhibiting action of the hydrochloric acid. A third factor is the presence of superficial erosions of the mucosa and round cell infiltration. The diagnosis is to be determined by the analysis of stomach contents. Free hydrochloric acid is never present; blood reaction is always present.

DISCUSSION

DR. THOMAS W. HARVEY, Orange: There is no organ that may not send a reflex influence back to the stomach, causing to appear in that organ symptoms often so severe as to cause us to overlook the original disease. Usually, in studying etiology, too little attention is given to the effect of continuous disturbances of function as a cause of pathologic changes. Changes in the nervous or circulatory supply of a distant organ will have an important reflex influence on the stomach and its secretions; this may produce a train of symptoms simulating serious pathologic conditions.

DR. FRANK D. GRAY, Jersey City: No one should pass over a case without knowing what a test for free hydrochloric acid and a test for occult blood will show. These tests are not beyond the capacity of the general practitioner; but if we do not feel competent to make these tests ourselves, most of us are within reach of a pathologic laboratory.

A Plea for a High Standard of Medical Education

DR. THOMAS H. MCKENZIE, Trenton: It is the duty of the state to protect the public from unscrupulous practitioners by enacting laws that will eliminate entirely from the practice of medicine those not qualified for such service. Qualification is determined by measurement with some standard. A medical education standard should be established. The federal government should enact a law creating a Bureau of Medical Education and Sanitation, one of whose duties should be to establish a standard for preliminary medical education. A degree from a medical school would then be a guarantee of efficiency. The over-production of ill-trained men is mainly due to the existence of commercial medical schools. Medical science can make but little progress while it depends on such mercenary institutions as its source of inspiration. A federal bureau would have the power to regulate this evil. In the absence of such a bureau, we must look to the progressive, public-spirited and well-endowed medical schools; to the state medical boards; and to whatever results may be obtained from the agitation instigated by the American Medical Association. Improvement in medical education has been rapidly accomplished since the organization of the Council on Medical Education in 1904. The Association of American Medical Colleges has discussed the standards of medical education with a view to their improvement. The result is that nearly all colleges are now requiring, in addition to the high-school course, one or more years of college work. The good offices of the New Jersey State Board have been somewhat handicapped by our defective laws regulating medical practice. The medical society has for three successive years asked in vain for relief. The legislature seems to suspect that we ask for such legislation for our own selfish ends. The mind of the general public should be disabused of such false notions. The medical profession should organize a campaign of education and seek to set the matter in the proper light.

Oration in Medicine: Advances in the Knowledge of the Circulatory System

DR. GEORGE W. NORRIS, Philadelphia: Percussion, auscultation, etc., will probably never be superceded by other methods of studying the circulation, but they have been materially abetted by various procedures. Among these, the auscultating method of estimating blood-pressure, especially by a study of the five phases of Korotkow, the practice of sphygmography, the orthodiagraph, the electric cardiogram, and the plethysphygmograph are important. I would urge the primary importance of diet, hygiene, mode of life and physical methods of treatment, in contradistinction to the secondary rôle of any therapy. The practice of massage on the part of the youthful or less busy practitioner would save many a patient from the osteopath and his kin. Thanks to recent investigations, much more accurate knowledge regarding digitalis and strophanthus is available, and much more reliable preparations are to be had. The newer patented preparations of the former drug have not proved so generally superior to the ordinary preparations as to counterbalance their increased cost. The newer conceptions regarding the cardiovascular system in health and disease include the myogenic doctrine; the importance of vascular, as well as cardiac, compensation; the frequency of syphilis as an etiologic factor; and that of low-grade chronic infection as a cause of progressive endocarditis.

Advantages of the Necropsy

DR. HARRISON S. MARTLAND, Newark: The greatest importance of the autopsy is shown in the proper signing of the death certificate. Clinicians who have followed their cases to the autopsy table all admit that a large percentage of their cases are ones of mistaken diagnoses. How amusing then is the filing of vital statistics, by the Bureau of Census, for instance, on the causes of death in the United States, since in only a small percentage is a control by autopsy made. Our clinical diagnoses are too faulty to be accepted for statistical purposes. Vital statistics concerning death would be greatly improved if all the states adopted an appendix to the death certificate, for purpose of filing the pathologic anatomic causes of death in case an autopsy is performed. The greatest scientific advantage of the autopsy is perhaps seen in the combined consideration of the anatomic lesions at autopsy with the clinical picture of the disease. In order to obtain this, constant commingling of clinician and pathologist in the wards and laboratory is necessary. The study of clinical data to formulate a diagnosis in connection with the proof of the correctness of the clinical data is the only ideal method of teaching medicine. Such courses should be required in all medical schools, as the basis of the medical training. Pathology and medicine should be taught side by side, in the hospital and morgue, and not by separate didactic lectures. I believe that another advantage of the autopsy will be in the restraining of the modern idea of specialization. Autopsies frequently expose the narrow-mindedness of various specialists even the most talented of them.

DR. EDWARD E. WORL, Newark: In compiling vital statistics, one sometimes comes across diagnoses that cannot be classified by any system. Official autopsies would settle the question in many cases of this kind. It seems to me, however, that in some cases of infectious disease the anatomic findings would not correspond with the essential etiologic factor. There should be a law in the state to compel an official autopsy in every case, no matter what the diagnosis of the family physician may be.

Excision of the Superior Maxilla for Sarcoma of the Antrum

DR. WALTER B. JOHNSON, Paterson: My patient was a woman, thirty-three years of age, with no history of cancerous disease. The injury, which occurred one year previous to operation, was followed by swelling, which persistently increased in size. It involved and filled the nostril, exfoliated the teeth, perforated the palate, entered the orbital cavity, and involved the nasal and ethmoid bones. The operation was performed in the usual manner, curetting the ethmoid. The patient was discharged in three weeks. The pathologic report was alveolar sarcoma, spindle-cell variety. At this time, fourteen months after the operation, no symptoms of recurrence of the disease are evident.

Association News

PROCEEDINGS OF THE LOS ANGELES SESSION

(Continued from July 8, page 145)

Notice on Section Transactions

Those who desire copies of the 1911 Transactions of any of the sections, but whose names are not on the permanent subscription list, should order at once, as printing has already commenced. Only enough are printed to supply what is considered the probable demand, and each year some persons order too late to be supplied. Each volume is a cloth-bound book containing the articles and discussions in that particular section. A volume is issued for each section except the Section on Stomatology. The Section on Dermatology and the Section on Genito-Urinary Diseases held no meetings at Los Angeles and the Section on Hospitals is a new section which has held no meeting. For none of these four, therefore, will there be any bound volume of Transactions for the year 1911. When ordered in advance, each book costs the subscriber $1.00, payable at time of delivery.

It is to be remembered that one may give a permanent order for Transactions; and those specified are sent, from year to year, until the order is cancelled. Address orders to the American Medical Association, 535 Dearborn Avenue, Chicago.

Minutes of Sections

The minutes of the proceedings of the various sections which held meetings at the Sixty-Second Annual Session, held at Los Angeles, June 27 to 30, 1911, are given below—except those of the Section on Stomatology, which had not been received when these pages went to press.

SECTION ON PRACTICE OF MEDICINE

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order at 2:15 p. m., in the Majestic Theater, by the Chairman, Dr. Allen A. Jones, Buffalo.

Dr. H. A. Giltner, U. S. N., read a paper on "Verruca Peruana or Carrion's Disease." No discussion.

Dr. C. M. Richter, San Francisco, read a paper on "The Epidemiology of Pneumonia." No discussion.

Drs. Walter Brem and F. C. Watson, Cristobal, Canal Zone, presented a paper on "Successful Treatment of a Typhoid Bacillus-Carrier by Vaccination." Discussed by Drs. Frank Billings, Percy M. Ashburn, William Litterer and Walter Brem.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Causation and Treatment of Fever in Tuberculosis." Discussed by Drs. Edward F. Wells, Norman Bridge, Frank Billings, Philip King Brown, C. F. Tenney and F. M. Pottenger.

Dr. Norman Bridge, Los Angeles, read a paper on "Streptothrix (Actinomycosis) of the Lungs." No discussion.

Dr. N. W. Jones, Portland, Ore., read a paper on "Hemorrhagic Erosions of the Stomach." Discussed by Drs. Robert T. Morris, J. F. Hultgen, Philip King Brown and N. W. Jones.

Dr. W. J. Butler, Chicago, read a paper on "Immuno-Diagnostics in Internal Medicine." Discussed by Drs. F. M. Pottenger and W. J. Butler.

The Chairman: I wish at this time to interrupt the proceedings for a short time to announce the Nominating Committee: On this committee, I will appoint the following: Drs. W. Jarvis Barlow, Los Angeles; Henry B. Favill, Chicago, and Alexander Lambert, New York. Because of the absence of Dr. Joseph Miller, who serves on the Executive Committee, I will appoint in his place Dr. Herbert Moffit, San Francisco.

Dr. J. F. Hultgen, Chicago, read a paper on "The Leukocytology of Typhoid and Paratyphoid Fevers." No discussion.

WEDNESDAY, JUNE 28—MORNING

Dr. W. Jarvis Barlow, Los Angeles, read a paper on "Effects on Secondary Anemia by Hypodermic Injections." Discussed by Drs. Alexander Lambert, Bonnell, Samuel D. Swope, Dudley Fulton and W. Jarvis Barlow.

Dr. Edward F. Wells, Chicago, read a paper on "Reserve Renal Capicity in Chronic Interstitial Nephritis." Discussed by Drs. Frank Billings, Alexander Lambert, W. L. Bierring and Edward F. Wells.

Dr. Roger I. Lee, Boston, read a paper on "Pathologic Findings in Hypertension." Discussed by Drs. William Ophuls, Edward F. Wells, Frank Billings, C. F. Hoover, Charles L. Greene, W. L. Bierring, Percy M. Ashburn and Roger I. Lee.

Dr. Charles L. Greene, St. Paul, Minn., read a paper on "New Clinical Values in the Treatment of the Gastric Neuroses." Discussed by Drs. Walter B. Cannon, Frank Billings, W. J. Butler, Seale Harris and Charles L. Greene.

Dr. Alexander Lambert, New York, read a paper on "The Blood-Pressure in Pneumonia." Discussed by Drs. Dudley Fulton, Wilder Tileston, Percy M. Ashburn and Alexander Lambert.

Drs. H. D. Arnold and R. C. Larrabee, Boston, presented a paper on "The Importance of the Quantitative Regulation of Diet." Discussed by Dr. Wilder Tileston.

Drs. J. M. Anders and A. C. Morgan, Philadelphia, presented a paper on "Pleurisy and Empyema in Pneumonia." Discussed by Drs. J. N. Hall, Everett J. Brown, C. F. Hoover and A. C. Morgan.

WEDNESDAY, JUNE 28—AFTERNOON

Symposium on Syphilis.

Dr. L. S. Schmitt, San Francisco, read a paper on "Laboratory Diagnosis of Syphilis."

Dr. Frank Billings, Chicago, read a paper on "Visceral Syphilis."

Dr. Albert Keidel, Baltimore, read a paper on "Value of the Wassermann Reaction and of Salvarsan."

Dr. D. W. Montgomery, San Francisco, read a paper on "Disadvantages Incident to the Administration of Salvarsan."

Dr. W. T. Wootton, Hot Springs, Ark., read a paper on "Adequate Treatment of Syphilis."

These five papers were discussed by Drs. Howard Fox, W. J. Butler, C. F. Hoover, Harry Reeves Olliver, Harvey G. Parker, William Litterer, G. H. Aiken, John H. Graves, William W. Graves, B. H. Orndorff, Percy M. Ashburn, H. S. Plummer, L. S. Schmitt, Frank Billings, D. W. Montgomery and W. T. Wootton.

THURSDAY, JUNE 29—MORNING

Dr. A. J. Hodgson, Waukesha, Wis., read a paper on "Treatment of Diabetes." Discussed by Drs. Robert T. Morris, Edward F. Wells, H. B. Favill, Wernigk, A. J. Ochsner and A. J. Hodgson.

Dr. G. W. McCoy, San Francisco, read a paper on "Bubonic Plague with Special Reference to that of Ground-Squirrel Origin." Discussed by Drs. Edward F. Wells and G. W. McCoy.

Dr. H. S. Plummer, Rochester, Minn., read a paper on "Relation of the Symptomatology and Pathology to Operative Mortality in Exophthalmic Goiter." Discussed by Drs. C. H. Mayo, Martin B. Tinker and H. S. Plummer.

Dr. W. E. Musgrave, Manila, P. I., read a paper on "Treatment of Intestinal Amebiasis." Discussed by Drs. Walter Brem, Percy M. Ashburn, Louis B. Wilson and W. E. Musgrave.

Dr. J. W. Draper Maury, Rochester, Minn., read a paper on 'Experimental Work on Intestinal Auto-Intoxication." Discussed by Dr. W. T. Councilman.

Report of the Nominating Committee. Dr. Alexander Lambert made this report: Chairman, Dr. Wilder Tileston, New Haven, Conn.; Vice-Chairman, Dr. Walter L. Bierring, Des Moines, Ia.; Secretary, Dr. Roger S. Morris, Baltimore; Orator, Dr. Charles L. Greene, St. Paul, Minn.; Delegate, Dr. J. A. Capps, Chicago, and Alternate Delegate, Dr. S. W. S. Toms, Nyack, New York.

Dr. Lambert: I move that the action on this report be deferred until after the orator's address this afternoon when a larger number of members will be present. Seconded. Carried.

Drs. G. R. Satterlee and L. T. Le Wald, New York, presented a paper on 'Some Obscure Conditions of the Digestive Tract as Studied by the Roentgen Ray." No discussion.

Drs. W. T. Councilman and C. H. Dunn, Boston, presented a paper on "Myatonia Congenita (Oppenheim); Report of a Case with Autopsy." No discussion.

THURSDAY, JUNE 29—AFTERNOON

Dr. C. F. Hoover, Cleveland, delivered the Oration in Medicine: "A Clinical Study of Disturbances in Rate and Rhythm of Respiration." Discussed by Dr. Henderson.

It was moved and seconded that the report of the Nominating Committee be adopted. Unanimously carried.

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "Infantilism with Disease of the Pituitary Gland." No discussion.

Dr. Dudley Fulton, Los Angeles, read a paper on "A Clinical Study of the Mobility of the Heart." No discussion.

The following papers were read at a Symposium on Poliomyelitis—a joint session with the Section on Diseases of Children.

Drs. Samuel G. Dixon, Harrisburg, Pa., and H. T. Karsner, Philadelphia, presented a paper on "Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania."

Drs. R. W. Lovett and A. W. Richardson, Boston, presented the following papers: "Recent History and Etiology of Infantile Paralysis," "Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis," and "Infantile Paralysis as Observed in Massachusetts, 1907-1910."

These papers were discussed by Dr. Philip King Brown.

SECTION ON SURGERY

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order by the Chairman, Dr. George W. Crile, Cleveland, who said: "It is with deep regret that I announce the death of Dr. John C. Munro, Boston. I will appoint in his place as a member of the executive committee, Dr. Charles H. Frazier, Philadelphia. I will appoint as chairman of the executive committee Dr. Charles A. Powers, Denver, to take the place of Dr. Rudolph Matas, New Orleans, who is absent."

The following papers were then presented:

Dr. George W. Crile, Cleveland, read his chairman's address: "Newer Methods for Further Increasing the Safety of Surgical Operations." No discussion.

Dr. Charles H. Frazier, Philadelphia, read a paper on "Brachial Palsy." Discussed by Dr. W. W. Grant, Denver.

Dr. Fred B. Lund, Boston, read a paper on "Advantages of the So-Called Decortication of the Lung for Old Empyemata, with Remarks on the Treatment of Empyema; Report of Cases." No discussion.

Dr. Robert C. Coffey, Portland, Ore., read a paper on "A Plea for More Direct Methods in Dealing with Gastric Ulcers." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; W. W. Skinner, Geneva, N. Y.; E. Wyllis Andrews, Chicago; Charles H. Mayo, Rochester, Minn.; A. J. Ochsner, Chicago, and Robert C. Coffey, Portland, Ore.

WEDNESDAY, JUNE 28—MORNING

Dr. L. L. McArthur, Chicago, read a paper on "A New Technic for Rectopexy for Rectal Prolapse." Discussed by Drs. E. Wylly Andrews, Chicago, and L. L. McArthur, Chicago.

Dr. George E. Brewer, New York, delivered the Oration on Surgery: "A Review of Our Present Knowledge of Acute Renal Infections." No discussion.

Dr. E. MacDowell Stanton, Schenectady, N. Y., read a paper on "The End Results of Gall-Bladder Surgery."

Dr. B. B. Davis, Omaha, read a paper on "Factors Hostile to Success in Gall-Bladder Surgery."

These two papers were discussed by Drs. Robert T. Morris, New York; A. J. Ochsner, Chicago; J. F. Percy, Galesburg, Ill.; F. L. Hupp, Wheeling, W. Va.; E. M. Stanton, Schenectady, N. Y., and B. B. Davis, Omaha.

Dr. George G. Ross, Philadelphia, read a paper on "Subphrenic Abscess the Result of Acute Inflammation of the Vermiform Appendix."

Dr. Van Buren Knott, Sioux City, Ia., read a paper on "The Treatment of Localized Appendicular Abscess."

These two papers were discussed by Drs. Thomas W. Huntington, San Francisco; Robert T. Morris, New York; W. W. Grant, Denver; Archibald McLaren, St. Paul; A. J. Ochsner, Chicago, William Fuller, Chicago; William Tunis Reynolds, Kansas City, Mo.; Van Buren Knott, Sioux City, Ia., and George G. Ross, Philadelphia.

Dr. Charles H. Mayo, Rochester, Minn., read a paper on "Lingual, Sublingual and Other Forms of Aberrant Thyroid." No discussion.

Dr. Wallace I. Terry, San Francisco, read a paper on "The Surgical Treatment of Megacolon." Discussed by Drs. J. F. Percy, Galesburg, Ill.; Harold J. Stiles, Edinburgh, Scotland, and Wallace I. Terry, San Francisco.

WEDNESDAY, JUNE 28—AFTERNOON

Mr. Harold J. Stiles, Edinburgh, Scotland, read a paper on "The Pathology and Treatment of Tuberculosis of Long Bones." Discussion was deferred until conclusion of next paper.

Dr. E. R. Le Count, Chicago, moved that the House of Delegates be requested to elect Professor Stiles to honorary membership. Motion seconded by Dr. J. B. Murphy, Chicago. Unanimously carried by rising vote. Professor Stiles expressed his thanks for the honor.

Dr. Leonard W. Ely, Denver, read a paper on "The Three Main Rules in the Treatment of Adult Joint Tuberculosis."

The two preceding papers were discussed by Drs. John B. Murphy, Chicago; Thomas W. Huntington, San Francisco; Harold J. Stiles, Edinburgh, Scotland, and Leonard W. Ely, Denver.

(Further discussion was deferred until after the reading of Dr. Guthrie's paper on "Unusual Joint Cases.")

Dr. Stephen H. Watts, Charlottesville, Va., read a paper on "Gonorrheal Osteoperiostitis of Long Bones." No discussion.

Drs. Dean D. Lewis and Carl B. Davis, Chicago, presented a paper on "Direct Experimental Transplantation of Tendons and Fascia." Discussed by Drs. Leonard W. Ely, Denver; Kenneth A. J. Mackenzie, Portland, Ore.; Joseph Kurtz, Los Angeles, and Dean D. Lewis, Chicago.

Drs. Fred T. Murphy and Beth Vincent, Boston, presented a paper on "An Experimental Study of the Cause of Death in Acute Intestinal Obstruction." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; Fred B. Lund, Boston; Willard Bartlett, St. Louis, and Fred T. Murphy, Boston.

Dr. Edward S. Judd, Rochester, Minn., read a paper on "A Study of 500 Cases of Prostatectomy." Discussed by Drs. Archibald MacLaren, St. Paul; Charles E. Barnett, Fort Wayne, Ind.; Granville MacGowan, Los Angeles; Charles D. Lockwood, Pasadena, Cal., and Edward S. Judd, Rochester, Minn.

Dr. James F. Mitchell, Washington, D. C., read a paper on "Sensibility of the Peritoneum and Abdominal Viscera." Discussed by Dr. W. Le Moyne Will, Los Angeles.

THURSDAY, JUNE 29—MORNING

Dr. Charles H. Mayo, Rochester, Minn., presented the report of the Executive Committee, nominating officers of the Section for the ensuing year, as follows: Chairman, Dr. Thomas W. Huntington, San Francisco; Vice-Chairman, Dr. George W. Guthrie, Wilkes-Barre, Pa.; Secretary, Dr. Fred T. Murphy, St. Louis; Delegate, Dr. H. A. Royster, Raleigh, N. C.; Orator, Dr. L. L. McArthur, Chicago. Motion made, seconded and unanimously carried, adopting the report and electing the nominees.

Dr. H. A. Royster moved a vote of thanks to the local committee. Motion seconded and unanimously carried.

Dr. A. F. Jonas, Omaha, read a paper on "Spinal Fractures." Discussed by Drs. H. W. Howard, Los Angeles; Stanley Stillman, San Francisco; C. P. Thomas, Los Angeles; Charles David Strong, San Bernardino, Cal.; Harvey Cushing, Baltimore, and A. F. Jonas, Omaha, Neb.

Dr. George W. Guthrie, Wilkes-Barre, Pa., read a paper on "Several Unusual Joint Cases; Their Treatment and the Results."

Discussion (including further discussion of papers by Mr. Stiles and Dr. Ely) by Drs. Harry M. Sherman, San Francisco, and S. T. Hunkin, San Francisco. Further discussion postponed until the conclusion of the reading of papers on fractures.

Dr. R. W. Corwin, Pueblo, Colo., read a paper on "Thirty Years' Experience with Fractures at Minnequa Hospital; Treatment and Results."

Dr. Robert T. Morris, New York, read a paper on "Pinning Fractures Through a Cannula with the Aid of the Fluoroscopic Screen."

Drs. Willard Bartlett and W. R. Hewitt, St. Louis, presented a paper on "Clinical and Experimental Work to Determine the Value of Lane's Plate in the Treatment of Fractures."

Dr. Edward Martin, Philadelphia, read a paper on "The Open Treatment of Fractures of the Shafts of the Long Bones." The five preceding papers were discussed by Drs. Rexwald Brown, Santa Barbara, Cal.; Herman E. Pearse, Kansas City, Mo.; Fred B. Lund, Boston; W. Le Moyne Wills, Los Angeles; William Fuller, Chicago; W. A. Mitchell, Colfax,

Wash.; John Rogers, New York; Frank Warner, Columbus, Ohio, and R. W. Corwin, Pueblo, Colo.

Thomas W. Huntington, San Francisco, Chairman-Elect, was then presented to the Section and made remarks.

Dr. E. Wyllys Andrews, Chicago, read a paper on "New Mechanical Devices for Closing Wounds."

THURSDAY, JUNE 29—AFTERNOON

Dr. John Rogers, New York, read a paper on "A Theory for the Pathologic Physiology Involved in Diseases of the Thyroid Gland and Its Therapeutic Application."

Dr. Martin B. Tinker, Ithaca, N. Y., read a paper on "Factors Influencing the Safety of Surgical Treatment for Goiter."

These two papers were discussed by Drs. A. J. Ochsner, Chicago; John Rogers, New York, and Martin B. Tinker, Ithaca, N. Y.

Dr. Stanley Stillman, San Francisco, read a paper on "Lymphangiomata of the Omentum and Omental Cysts." No discussion.

Dr. H. A. Royster, Raleigh, N. C., read a paper on "Tumors of the Mesenter." No discussion.

Dr. James E. Moore, Minneapolis, read a paper on "A Plea for Larger Incisions and More Thorough Examinations in Abdominal Surgery."

Dr. James M. Neff, Spokane, Wash., read a paper on "Surgery of the First Portion of the Subclavian Artery, with Report of a Case of Successful Ligation." Discussed by Dr. Robert C. Coffey, Portland, Ore.

Dr. Charles A. Powers, Denver, read a paper on "Woody Phlegmon of the Neck (Reclus)." Discussed by Dr. Frank Le Moyne Hupp, Wheeling, W. Va.

Dr. Cassius C. Rogers, Chicago, read a paper on "Brain Surgery." No discussion.

The Chairman, speaking for the Section and the officers, expressed "Great indebtedness for the services of Dr. William Le Moyne Wills, Dr. Ray Smith, Dr. C. W. Anderson and Dr. Edward F. Gillan, whose untiring labors have assisted us so much in the carrying out of this program." He also expressed "special appreciation of the services of your very efficient secretary, Dr. John T. Bottomly of Boston."

"Then, finally, I wish personally to express my deep appreciation of the kindly way in which you have overlooked the many shortcomings of the presiding officer."

A motion was then made, seconded and unanimously carried, closing the session of the Section on Surgery for the year.

SECTION ON OBSTETRICS AND GYNECOLOGY

TUESDAY, JUNE 27—AFTERNOON

The Section met in Berean Hall of the Baptist Auditorium and was called to order at 2 p. m. by the Chairman Dr. H. G. Wetherill of Denver.

Dr. Charles D. Lockwood of Pasadena read a paper on "Carcinoma of the Clitoris and Report of a Case." No discussion.

Dr. E. M. Lazard of Los Angeles read "Torsion of a Subserous Pedunculated Fibroid Complicating Pregnancy at Four and a Half Months. Operation; Recovery, with Delivery at Term." The paper was discussed by Dr. J. S. Baer of Camden, N. J.

A paper entitled "Adiposity of the Mammary Glands" by Dr. J. R. Guthrie of Dubuque, Ia., and Henry Albert of Iowa City, Ia., was read by Dr. Guthrie. No discussion.

Dr. A. E. Benjamin of Minneapolis read a paper entitled "The Exciting Causes, Means of Prevention and Early Treatment of Cancer of the Uterus." Discussion by Drs. J. S. Baer, Camden, N. J.; Arthur E. Hertzler, Kansas City, Mo.; John O. Polak, Brooklyn; Laura H. Branson, Iowa City; Charles D. Lockwood, Pasadena, Cal.; T. Mitchell Burns, Denver; James T. Reddick, Paducah, Ky.; R. C. Coffey, Portland, Ore.; Henry P. Newman, San Diego; Burke, Redlands; W. B. Dorsett, St. Louis, and A. E. Benjamin.

The Chairman appointed on the Executive Committee Drs. E. E. Montgomery, Philadelphia; Palmer Findlay, Omaha; Henry Parker Newman, San Diego, Cal.; J. H. Jacobson, Toledo, O.

Dr. Arthur E. Hertzler, Kansas City, Mo., read "Relation of Exophthalmic Goiter to Pelvic Disease" which was discussed by Dr. E. M. Lazard of Los Angeles.

Dr. T. M. Mitchell of Denver moved that a committee be appointed by the Section on Obstetrics and Gynecology on obstetric terminology, especially in reference to the anatomy, the bony pelvis, the pelvic floor, the reproductive organs and the fetal head. Seconded and carried.

WEDNESDAY, JUNE 28—MORNING

The Chairman, Dr. Wetherill, called the Section to order at 9:30 and announced the following Committee on Obstetric Terminology: Drs. T. Mitchell Burns, Denver, Chairman; J. B. DeLee, Chicago; F. J. Taussig, St. Louis; George E. Piersol, University of Pennsylvania; J. Clifton Edgar, New York.

Dr. W. F. Braasch of Rochester, Minn., read "The Value of Pyelography," which was illustrated by lantern slides. The paper was discussed by Drs. E. E. Montgomery and H. G. Wetherill.

Dr. J. H. Jacobson and Dr. J. G. Keller of Toledo presented a paper on "Postoperative Urinary Retention and Cystitis," which was read by Dr. Jacobson.

Dr. M. L. Harris of Chicago read a paper on "Pericystitis."

These two papers were discussed by Drs. E. E. Montgomery, Philadelphia; W. R. P. Clark, San Francisco; W. B. Dorsett, St. Louis; A. E. Benjamin, Minneapolis; Jule B. Frankenheimer, San Francisco; J. H. Jacobson and M. L. Harris.

WEDNESDAY, JUNE 28—AFTERNOON

The Section was called to order at 2:20 by the Chairman.

Dr. W. B. Dorsett took the Chair and Dr. Wetherill gave the Chairman's Address entitled "Retrospection and Introspection: Our Opportunities and Obligations." No discussion.

Dr. Henry Parker Newman moved that a vote of thanks be extended to the retiring Chairman for his work and for his valuable address. Seconded and carried.

Dr. Philander A. Harris of Paterson, N. J., moved that the phase of the Chairman's Address bearing on the proposed change in the official name of the Section be referred to a committee which should report to, and if it were thought desirable, present resolutions to the House of Delegates. Seconded and carried.

Dr. Franklin H. Martin of Chicago read a paper on "Pathologic Kinks and Adhesions in the Terminal Portion of the Ileum." The paper was discussed by Drs. Dorsett, Hertzler, Louis J. Hirschmann of Detroit; C. E. Barnett, Ft. Wayne, and F. H. Martin.

Dr. Walter B. Dorsett of St. Louis contributed "Personal Observations in Treatment of One Hundred and Forty Consecutive Cases of Uterine Myoma." Discussion by Dr. Albert Goldspohn, Chicago; John Osborn Polak, Broowlyn, and W. B. Dorsett.

The Chairman introduced Mr. Harold Stiles of Edinburgh, who spoke (by invitation) on "Chloroform Toxemia." The subject was discussed by Dr. Grant of Portland and Mr. Stiles. A rising vote of appreciation of Mr. Stiles' address was given by the Section.

Dr. R. C. Coffey of Portland, Ore., read a paper on "The Surgical Treatment of Ptosis of Abdominal Organs by Hammock Operation." The paper was discussed by Drs. Benjamin, Goldspohn and Coffey.

The following Committee on the Chairman's Address was announced by Dr. Wetherill: Drs. Philander A. Harris, Paterson, N. J.; F. F. Simpson, Pittsburg, Pa.; C. Jeff Miller, New Orleans.

THURSDAY, JUNE 29—MORNING

The Section was called to order at 9:30 a. m. by the Chairman. The first item of business was the report of the Nominating Committee, as follows: for chairman, Dr. C. Jeff Miller, New Orleans; for Vice-Chairman, Dr. George B. Somers, San Francisco; for Secretary, Dr. F. F. Simpson, Pittsburg; for Member of House of Delegates, Dr. H. G. Wetherill, Denver. On motion, the ballot was cast and the nominees declared elected.

Dr. George B. Somers of San Francisco read a paper on "Operation of Choice in Cases of Ureterovaginal Prolapse in Elderly Women." The paper was discussed by Drs. Philander A. Harris, S. M. D. Clark of New Orleans, L. G. Bowers of Dayton, Frank P. Topping of San Francisco, and G. B. Somers.

Dr. Henry Parker Newman, San Diego, Cal., read "Special Considerations in the Surgical Treatment of the Female Pelvic Organs." The paper was discussed by Dr. White of Chicago and Dr. Newman.

Dr. L. G. Bowers of Dayton read "The Proper Operative Period and Methods of Drainage in Pelvic Infections."

Dr. Philander A. Harris, Paterson, N. J., read "The Employment in Abdominal Surgery of Two Rubber Drainage Tubes with a Single Stab Wound Exit, Instead of a Single Tube with Exit by Incision or Otherwise Wherever Drainage is Desired."

These two papers were discussed by Drs. Frank T. Andrews, L. G. Bowers and P. A. Harris.

Dr. F. F. Simpson of Pittsburg read a paper entitled "Postoperative Complications." No discussion.

Dr. John Osborn Polak of Brooklyn read "Two Years' Experience with Vaccine in Obstetric and Gynecologic Infections." Discussion by Drs. Andrews and Polak.

Dr. E. E. Montgomery read "Primary Carcinoma of the Fallopian Tube." No discussion.

THURSDAY, JUNE 29—AFTERNOON

The Section was called to order by the Chairman at 2:15 p. m.

The report of the Committee on Chairman's Address was: "Resolved, That through the Representative of this Section we request the House of Delegates to make the following alteration in the By-Laws of the American Medical Association: Amend Book IV—Scientific Work—Chapter XII—Sections—Section I, Heading 3, to read as follows: 'Obstetrics, Gynecology and Abdominal Surgery.'" It was moved, seconded and carried that the report of the committee be adopted. [The request reached the House too late for action.]

Dr. Palmer Findlay of Omaha read a paper entiled "Prolapse of the Gravid Uterus." Discussion by Drs. Hertzler, Dorsett, Andrews and Findlay.

Dr. C. B. Ingraham read "Pernicious Vomiting of Pregnancy." Discussion by Drs. Polak of Brooklyn, Burns of Denver, Miller of New Orleans, Hassner of Utah, Darling of Boston, Andrews of Chicago, G. R. Neff of Farmington, Iowa, C. T. Palmer of Los Angeles, J. L. Lamb of Watts, Cal., and Ingraham.

Dr. Laura H. Branson of Iowa City read a paper entitled "A Study of Cholecystitis and Cholelithiasis in Their Relation to Pregnancy." Discussion by Drs. Findlay and Branson.

Dr. T. Mitchell Burns of Denver read "Cesarean Section; Indications and Technic; Report of Seventeen Cases." The paper was discussed by Drs. Polak and Burns.

The retiring Chairman expressed his appreciation of the cooperative work of the officers in the success of the meeting, and congratulated the Section on election of Drs. Miller and Simpson as Chairman and Secretary. He moved that a vote of thanks be given to Dr. H. Bert Ellis of Los Angeles and his Committee on Arrangements for their efficient cooperation in the work of the Association at large, and particularly to Dr. M. L. Moore and Carl Kurtz for their arrangements for the meeting of the Section on Obstetrics and Diseases of Women. Seconded. Carried.

SECTION ON OPHTHALMOLOGY

TUESDAY, JUNE 27—AFTERNOON

The Section on Ophthalmology convened in the Parish House of St. Paul's Church, Los Angeles, at 2 p. m., with the chairman, Dr. A. E. Bulson, Jr., Ft. Wayne, Ind., in the chair.

The secretary, Dr. Edgar S. Thomson, New York, introduced Dr. Bulson, who then read his Chairman's Address.

Secretary Thomson announced that as there were some suggestions and recommendations in the address, he deemed it proper that it be referred to a committee. Dr. William F. Mittendorf, New York, moved that a committee be appointed to take action on the recommendations in the chairman's address. Carried.

Dr. Adolf Alt, St. Louis, read a paper on "Healing of Iridectomy Wounds and Thoughts on Its Influence on Glaucoma." Discussed by Dr. Hiram Woods, Baltimore, and by Dr. Alt, St. Louis.

The chairman appointed the following committee on the chairman's address: Drs. William F. Mittendorf, New York; Hiram Woods, Baltimore, and Melville Black, Denver.

Dr. F. T. Rogers, Providence, R. I., read a paper on "The Significance of Non-Syphilitic Retinitis, Based on a Study of the Subsequent History of One Hundred and Eighty-Seven Cases." Discussed by Drs. W. H. Roberts, Pasadena, Cal., Melville Black, Denver; William F. Mittendorf, New York; F. B. Tiffany, Kansas City, Mo.; Hiram Woods, Baltimore, DeWitt C. Bryant, Omaha; William Zentmayer, Philadelphia, and F. T. Rogers, Providence, R. I.

Dr. Mark D. Stevenson, Akron, Ohio, read a paper on "The Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants." Discussed by Drs. G. C. Savage, Nashville, Tenn.; Adolf Alt, St. Louis; S. L. Ledbetter, Birmingham, Ala.; W. A. Briggs, Sacramento, Cal.; F. T. Rogers, Providence, R. I.; Samuel Z. Shope, Harrisburg, Pa.; H. W. Woodruff, Joilet, Ill.; William Zentmayer, Philadelphia; William F. Mittendorf, New York; D. W. Greene, Dayton, O.; E. S. Thomson, New York; Hiram Woods, Baltimore; F. B. Tiffany, Kansas City, Mo.; Sherman Voorhees, Elmira, N. Y.; James W. May, Kansas City, Kan.; F. Park Lewis, Buffalo; A. E. Bulson, Ft. Wayne, Ind., and Mark D. Stevenson.

WEDNESDAY, JUNE 28—MORNING

Dr. J. A. Donovan, Butte, Mont., read a paper on "The Immediate Removal of Traumatic Cataracts." Discussed by Drs. Edward Jackson, Denver; Oscar Dodd, Chicago; W. R. Johnson, Spokane, Wash.; John E. Weeks, New York; W. E. Lambert, New York; E. S. Thomson, New York, and J. A. Donovan.

The committee appointed Tuesday afternoon to report on the Chairman's Address reported as follows:

REPORT OF COMMITTEE ON CHAIRMAN'S ADDRESS

Your committee appointed to report on the Chairman's Address respectfully submit the following: We endorse all the recommendations of the Chairman pertaining to the program. We think that young men who are doing original work should be encouraged to present the results of their work to the Section, and as a means to that end we would suggest that the officers of the Section learn who these men are through trusted members of the Section in the different localities.

We heartily endorse the recommendation for the creation of postgraduate courses in our medical schools, requiring one full year of work, both clinical and didactic, leading to the degree of doctor of ophthalmology.

The presence of a distinguished foreign guest is always desirable, but is to be encouraged when the conditions are favorable. Such invitations should not be indiscriminately distributed.

We recommend that the Knapp Testimonial Fund be encouraged by widespread contributions. The design for the medal as shown is approved.

On motion of Dr. Edward Jackson of Denver the report was adopted as read.

The Chairman, in the absence of the members of the regular Executive Committee, appointed three ex-chairmen of the Section as follows: Dr. G. C. Savage, Nashville; Dr. Edward Jackson, Denver, and Dr. John E. Weeks, New York. The Chairman instructed the members of the Executive Committee that a vice-chairman was to be selected and also an alternate delegate in addition to the other officers of the Section.

Dr. D. W. Greene, Dayton, Ohio, read a paper on "The Medical Treatment of the Patient Before and After Cataract Extraction." Discussed by Dr. William F. Mittendorf, New York; F. T. Rogers, Providence, R. I.; G. C. Savage, Nashville, Tenn.; W. H. Woodruff, Joilet, Ill.; F. P. Calhoun, Atlanta, Ga., and D. W. Greene.

Dr. Vard H. Hulen, Houston, Texas, read a paper on "Vacuum Fixation of the Lens and Flap Suture in the Extraction of Cataract in Its Capsule." Discussed by Drs. G. C. Savage, Nashville; D. W. Greene, Dayton; George E. Bellows, Kansas City; John E. Weeks, New York; Mark D. Stevenson, Akron, Ohio; Melville Black, Denver; James W. May, Kansas City, Kan.; Edward Jackson, Denver; Frederick Stauffer, Salt Lake City; William F. Mittendorf, New York, and Vard H. Hulen.

Dr. F. Park Lewis, Buffalo, read a paper on "Intra-Ocular Neoplasms, with Report of Five Cases." Discussed by Drs. G. C. Savage, Nashville; William F. Mittendorf, New York; Edward Jackson, Denver; Adolf Alt, St. Louis; Hiram Woods, Baltimore; J. A. Donovan, Butte; W. H. Roberts, Pasadena; William Zentmayer, Philadelphia; Carl S. G. Nagel, San Francisco; Thomas J. McCoy, Los Angeles; Archibald A. Macleish, Los Angeles; DeWitt C. Bryant, Omaha; A. E. Bulson, Jr., Ft. Wayne; John E. Weeks, New York; E. S. Thomson, New York, and F. Park Lewis.

WEDNESDAY, JUNE 28—AFTERNOON

Dr. Harvey Cushing, Baltimore, read a paper on "Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor." Discussed by Drs. Sherman Voorhees, Elmira, N. Y.; Hiram Woods, Baltimore; Walter S. Franklin, San Francisco; John E. Weeks, New York; Arthur C. Thorpe, Los Angeles and Harvey Cushing.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Nine Cases of Brain Tumor, with Remarks." Discussed by Drs. A. L. Macleish, Los Angeles, Harvey Cushing, Baltimore, and Sherman Voorhees.

Dr. Edward Jackson, Denver, read a paper on "The Optometry Question." At the conclusion of his paper, he read and moved the adoption of resolutions which were unanimously adopted and referred to the House of Delegates [and were later approved by that body, as appears in the minutes of the House of Delegates, THE JOURNAL, July 8, 1911, p. 141].

In the absence of Dr. John C. Bossidy, Boston, Chairman of the Section Committee on Optometry, the Secretary was instructed to read the report of that committee, as follows:

REPORT OF THE COMMITTEE ON OPTOMETRY

The Committee on Optometry, appointed by the Section on Ophthalmology of the American Medical Association, report that they prepared a history of optometry and optometry schools, and of the working of optometry laws; that such matter was published in the *Bulletin of the American Medical Association*, Nov. 15, 1910, and was distributed in various states where optometry legislation was sought during the current year.

Bills to legalize the practice of optometry were introduced in sixteen states. Oklahoma and New Hampshire passed such bills, as the medical profession did not arise in active opposition. In all other states (notably in Texas, Missouri, South Carolina, Alabama, Illinois, Ohio, Colorado, Pennsylvania, New Jersey, Connecticut) the opticians met active opposition and failed in their efforts.

In 1912, legislatures will convene in Georgia, Mississippi, Kentucky, South Carolina, Louisiana, Virginia, New Jersey, Massachusetts and Maryland. If the medical profession intends to oppose the further extension of such legislation, an early and active campaign should be instituted.

JOHN C. BOSSIDY, M.D.
JAMES THORINGTON, M.D.
Committee on Optometry.

The report was accepted.

Dr. Jackson's paper and resolutions were discussed by Drs. W. E. Lambert, New York; Samuel Voorhees, Elmira, N. Y.; W. H. Roberts, Pasadena; F. Park Lewis, Buffalo; J. A. Donovan, Butte; Melville Black, Denver; M. W. Ward, Woodland, Cal.; H. S. Miles, Bridgeport, Conn; Hiram Woods, Baltimore; S. L. Ledbetter, Birmingham, Ala.; J. H. McLeod, Santa Rosa, Cal., and Edward Jackson, Denver.

Drs. Oscar Dodd and Francis A. Lane, Chicago, presented a paper on "Tuberculous Cyclitis, Following Non-Perforating Injury to the Eye." Discussed by Drs. B. F. Church, Redlands; John E. Weeks, New York; J. A. Donovan, Butte, and Oscar Dodd.

THURSDAY, JUNE 29—MORNING

The following instruments and appliances were exhibited and described:

Dr. J. N. Risley, Philadelphia, exhibited an electric headlight for diagnostic purposes. The principal advantage in the light was that it was placed parallel with the eyes without any reflection.

Dr. Risley also exhibited a modification of the Wurdemann transilluminator, with different points in addition to the ocular illumination. It was simply an extension of the dark rod which permitted its being carried intranasally and allowed of complete transillumination in any direction.

Dr. F. B. Tiffany, Kansas City, exhibited an iridotomy instrument. "The instrument of Noyes wabbles when one attempts to make it cut; not only that, but it cuts with the lower blade and in making the cut in the iris you may strike the cornea. The improved instrument has an alligator blade, cutting on the upper side, with a firm hold. The iris is stabbed with the lower blade and the cutting is done with the upper with no danger of injuring the cornea. It is on the same plan as the Hartmann instrument for the nose and ear."

Dr. W. H. Roberts, Pasadena, exhibited a writing board invented by a patient which may be used by the blind or by any one in the dark. The board has a guide for the hand, so arranged that the line across the pad can be followed without watching the paper.

Dr. H. W. Woodruff, Joliet, Ill., exhibited two instruments useful in performing the tucking operation. One instrument was for the purpose of inserting the sutures and was similar to an aneurysm needle but on a smaller scale. They were made right and left. The other instrument was for measuring the amount of deviation in the eye and comparing it with the amount of tucking to be made. There was a graduated arc on the reverse side of the instrument graduated in millimeters, and a little catch similar to the stops on an ophthalmoscope.

Dr. Melville Black, Denver, read a paper on "The Venous Pulse and Blanching of the Retinal Vessels Induced by Making Pressure on the Eye-Ball an Index to the General Blood-Pressure." Discussed by Drs. H. S. Miles, Bridgeport, Conn.; Edward Jackson, Denver, and Melville Black.

Dr. Hiram Woods, Baltimore, read a paper on "Subhyaloid and Vitreous Hemorrhages." Discussed by Drs. W. H. Roberts, Pasadena; Adolf Alt, St. Louis; Melville Black, Denver; Edward Jackson, Denver; William F. Mittendorf, New York; Carl S. G. Nagel, San Francisco; H. W. Woodruff, Joliet, Ill.; C. D. Wescott, Chicago; F. T. Rogers, Providence; Marcus C. Findley, Grant's Pass, Ore.; John E. Weeks, New York; A. E. Bulson, Jr., Ft. Wayne; William Zentmayer, Philadelphia; E. S. Thomson, New York; William Mittendorf, New York, and Hiram Woods.

No member of the Committee on Collective Investigation Concerning the Ocular Muscles being present a report was not made, and on motion the committee was continued and the report carried over for another year.

Dr. G. C. Savage, Nashville: "Mr. Chairman, I do not wish to speak against the motion, but simply rise to a question of personal privilege. It is not my disposition to take advantage of any man or situation. It was suspected when this report was made that the battle royal would be fought out on the Pacific Coast. I am willing to give the boys another chance. But I want to say that it was possible that this report would be presented and as I couldn't take more than five minutes' time in the discussion I made a little publication which has already gone into the hands of many of you. If the writer of that letter is alive one year hence he will be prepared to defend everything he has said."

The motion carried and the committee was continued.

Dr. D. W. Greene, Dayton, explained that no members of the committee to report on the Smith-Indian cataract operation, of which he was chairman, except himself and Dr. Edward Jackson were present, and they were not ready to report. He therefore moved that the committee be continued for another year and that the chair appoint five additional members of the committee, from among men who had been in India and seen the Smith operation. He named men who had visited India. The Chairman insisted that the new members of the committee must be members of the Section. Dr. G. C. Savage therefore offered a substitute for Dr. Greene's motion to the effect that the committee be continued and that the members be authorized to add five to their number from the active members of the Section. The substitute motion was accepted and adopted by the Section.

Dr. H. W. Woodruff, Joliet, Ill., read a paper on "Shortening of an Ocular Muscle by Tucking." Discussed by Drs. G. C. Savage, Nashville; F. B. Tiffany, Kansas City, Mo.; Vard H. Hulen, Houston, Texas; Edward Jackson, Denver; James W. May, Kansas City, Kan.; C. D. Wescott, Chicago; William Zentmayer, Philadelphia; Oscar Dodd, Chicago; E. W. Alexander, San Francisco; Robert W. Miller, Los Angeles, and H. W. Woodruff.

Dr. G. C. Savage, Nashville, read a paper on "The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference." Discussed by Drs. Melville Black, Denver; Hiram Woods, Baltimore, and G. C. Savage.

THURSDAY, JUNE 29—AFTERNOON

The Executive Committee recommended the following officers for the ensuing year: Chairman, Dr. Adolf Alt, St. Louis; Vice-Chairman, D. F. T. Rogers, Providence, R. I.; Secretary, Dr. Edgar S. Thomson, New York; Delegate, Dr. Hiram Woods, Baltimore, and Alternate, Dr. John A. Donovan, Butte, Montana.

On motion the report was received and unanimously approved by the Section.

Dr. F. Phinizy Calhoun, Atlanta, Ga., read a paper on "Plastic Surgery of the Eyelids, Using the Wolffe Graft." Discussed by Drs. John E. Weeks, New York; F. B. Tiffany, Kansas City, Mo.; William Zentmayer, Philadelphia; W. E. Lambert, New York, and F. P. Calhoun.

Dr. William Zentmayer, Philadelphia, read a paper on "Changes Occurring in the Refraction of Corrected Ametropic Eyes." Discussed by Drs. W. E. Lambert, New York; C. D. Westcott, Chicago; G. C. Savage, Nashville; F. T. Rogers, Providence, R. I.; Mark D. Stevenson, Akron, Ohio.; Hiram Woods, Baltimore; Albert E. Bulson, Jr., Ft. Wayne, Ind., and William Zentmayer.

Drs. Cassius D. Westcott and John B. Ellis, Chicago, presented a paper on "Refraction Changes in Diabetes." Discussed by Drs. William Zentmayer and C. D. Westcott.

Dr. S. L. Ledbetter, Birmingham, Ala., read a paper on "The Psychologic Aspect of Refraction." Discussed by Drs. G. C. Savage, Nashville; William Mittendorf, New York; C. D. Wescott, Chicago; Mark D. Stevenson, Akron, Ohio; Edgar S. Thomson, New York; W. E. Lambert, New York, and S. L. Ledbetter.

The Chairman, Dr. Bulson, expressed his appreciation of the manner in which he had been supported and treated by the Section throughout his eight years of service, first as Secretary and then as Chairman of the Section, and also expressed his appreciation and that of the Section for the arrangements and the entertainment at the present meeting extended by the

members and the profession of Los Angeles, California and the Pacific Coast.

On motion of Dr. G. C. Savage a formal vote of thanks was extended to the profession of Los Angeles and California and the Pacific Coast for their efforts in making the meeting a success. He also included in his motion the thanks of the Section to Dr. Bulson for his eight years of service to the Section in the interest of ophthalmology.

On motion of Dr. G. C. Savage the names of the members of the Section who had died during the previous year were read. Tribute was paid to Dr. A. W. Calhoun of Atlanta by Dr. G. C. Savage. Dr. C. J. Kipp was spoken of by Dr. William F. Mittendorf; Dr. L. Connor of Detroit by Dr. A. E. Bulson, Jr.; Dr. A. R. Baker of Cleveland by Dr. Mark D. Stevenson; Dr. Herman Knapp, New York, by Dr. John E. Weeks; Dr. C. A. Oliver of Philadelphia by Dr. William Zentmayer; Dr. C. S. Bull of New York by Dr. Edgar S. Thomson, and Dr. Henry Gradle of Chicago by Dr. C. D. Wescott.

SECTION ON LARYNGOLOGY AND OTOLOGY

TUESDAY, JUNE 27—AFTERNOON

The Chairman, Dr. Dunbar Roy, Atlanta, Ga., called the meeting to order at 2:15 p. m., in the Parish House of St. Paul's Church.

The Chairman announced that Dr. Shambaugh, the Secretary of the Section, was sick at home with typhoid fever. "This is a great disappointment, for Dr. Shambaugh's spirit lends enthusiasm to a meeting. Dr. Shambaugh being absent, I have taken the privilege of appointing Dr. B. R. Shurly of Detroit, Secretary for this session."

Dr. Dunbar Roy, Atlanta, Ga., delivered the Chairman's Address.

Dr. J. F. Barnhill, Indianapolis, addressed the chair as follows: "We have with us Dr. Hugo Frey of Vienna, Austria, who is well known to many of you. I move that the privileges of this floor be extended to Dr. Frey during the session." Seconded. Carried unanimously. Dr. Barnhill: "I move that our secretary pro tem. be instructed to send a lettergram to our worthy secretary, who is sick at home with typhoid fever and unable to be present. Such action would be a privilege and pleasure to us all." Seconded and unanimously passed.

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "Observations on Tuberculosis in the Southwest."

The Chairman appointed the following Executive Committee: Drs. J. F. Barnhill, Indianapolis; J. H. Bryan, San Francisco, and H. Hastings, Los Angeles. Dr. W. H. Roberts, of Pasadena, Cal., was appointed representative to the House of Delegates.

Dr. Bullock's paper was discussed by Drs. A. H. Andrews, B. R. Carpenter, T. B. Wright, G. B. Webb, B. R. Shurly, A. H. Schermann and E. S. Bullock.

Dr. E. C. Sewall, San Francisco, read a paper on "Histologic Examination of the Faucial Tonsils with Reference to Tuberculosis." Discussed by Dr. Emerson.

WEDNESDAY, JUNE 28—MORNING

Demonstration of instruments by Dr. Perry Schoonmaker, New York. "A Newly Modified and Improved Bronchoscope and Its Use in Diagnosis and Treatment of Morbid and Pathological Conditions of the Respiratory and Gustatory Tract." Discussed by Dr. Henry Horn, San Francisco.

Presentation of instrument by Dr. Julius Szymanski, Chicago. "Additional Help Toward Removal of the Tonsils."

Presentation of instrument by Dr. Cullen F. Welty, San Francisco.

Presentation of instrument by Dr. Eugene R. Carpenter, El Paso, Tex. "Tonsil Knife and Dissector." Discussed by Dr. Mark Stevenson and Dr. Emerson.

Presentation of instrument by Dr. Perry Schoonmaker, New York, "Universal Douche Syringe."

Dr. Hugo Frey, Vienna, Austria, read a paper on "Salvarsan Treatment in Its Relation to the Ear." Discussed by Drs. B. R. Shurly, John Adams, P. Schoonmaker, S. Voorhees, Lyle and Frey.

The following invitation was read: "The Eye and Ear Section of the County Medical Society requests your presence at lunch on Wednesday and Thursday, at the California and University clubs." This was accepted by the Section with appreciation.

Dr. B. R. Shurly, Detroit, read a paper entitled: "A Discussion of the Various Pathologic Conditions Involving the Frontal Sinus."

Dr. Henry Horn, San Francisco, read a paper on "Some Lessons Drawn from a Series of Twenty-Eight Cases of Operation on the Sinuses."

The papers of the symposium were discussed by Drs. E. C. Sewall, H. B. Graham, C. F. Welty, S. Voorhees, J. F. Barnhill, W. R. Murray, Frank L. Dennis, B. D. Lustig, J. R. Fletcher, W. E. Briggs, B. R. Shurly and Henry Horn.

Dr. J. R. Fletcher, Chicago, read a paper on "The Recognition of a Serous Labyrinthitis." Discussed by Drs. H. Frey, A. H. Andrews, C. F. Welty, W. P. Eagleton, H. B. Graham and J. R. Fletcher.

WEDNESDAY, JUNE 28—AFTERNOON

The report of the committee with reference to the deaf child was read by the secretary. The Chairman explained that this committee has been reporting to the Section from year to year what it has been able to accomplish, especially along educational lines. This syllabus has been sent out, hoping that the faculties may be guided by it and that the students may receive some instruction in reference to the care of the deaf child.

It was moved that the report be accepted and that the committee be continued. The motion was seconded with the suggestion that the committee be allowed to add new members, if they see fit. This suggestion was accepted, and the motion passed unanimously.

Some large photographs of microscopic sections were presented by Dr. Carpenter, along the line of Dr. Frey's address.

Dr. Mark D. Stevenson, Akron, O., read a paper on "A Nasal Rubber Tampon."

Symposium on the "Relations of the Nasal Accessory Sinuses and Diseases of the Eye."

Dr. W. E. Sauer, St. Louis, read a paper on "The Anatomic Conditions Which Have a Bearing On the Relation Between the Diseases of the Eye and the Diseases of the Accessory Sinuses."

Dr. A. H. Andrews, Chicago, read a paper on "Eye Complications Arising From Diseases of the Nasal Accessory Sinuses."

Dr. J. H. Bryan, Washington, D. C., read a paper on "Operative Treatment of Suppurative Sinus Diseases Producing Orbital Complications."

The papers of the symposium were discussed by Drs. C. F. Welty, P. Schoonmaker, G. J. Lund, Emerson, A. L. Kelsey, Andrews and Bryan.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Primary Infection of Bulb Sinus and Jugular in a Woman of 56 Years." Discussed by Drs. J. F. Barnhill, W. E. Sauer, P. Schoonmaker, M. D. Stevenson, W. P. Eagleton and S. Voorhees.

THURSDAY, JUNE 29—MORNING

Presentation of instruments by Dr. E. C. Sewall, San Francisco.

The Executive Committee reported the following nominations: Chairman, Dr. George E. Shambaugh, Chicago; Vice-Chairman, Dr. F. P. Emerson, Boston, and Secretary, Dr. Burt Russel Shurly, Detroit.

On separate motions, these officers were declared unanimously elected. Cries for speech elicited the following remarks:

Vice-Chairman Emerson: Gentlemen: "I certainly appreciate the honor, and I will try to do my best during the coming year. I thank you very much."

Secretary Shurly: "I have a very difficult task before me, I am sure, to keep up the reputation and standards of this Section. Dr. Shambaugh has so thoroughly organized and so carefully prepared the work of this Section from year to year, that I feel he will be a very great help in directing me in my new office. We shall endeavor to make it just as interesting and valuable as possible, and try to keep the standards as high as they have been, so that this may continue to be one of the best sections, and the best gathering for the development and study of our specialty in any country in the world."

Dr. Cullen F. Welty, San Francisco, read a paper on "Improved Technic of the Thiersch Graft Following the Radical Ear Operation. Discussed by Drs. H. Frey, H. B. Graham, H. Horn, J. F. Barnhill, M. W. Fredrick, F. Stauffer, E. C. Sewall, and C. F. Welty.

Dr. H. B. Graham, San Francisco, read a paper on "The Diagnosis of Retro-Labyrinth Affections." Discussed by Drs. H. Frey, C. F. Welty and Graham.

Symposium on the "Relations Between Middle-Ear Diseases and Conditions in the Nose and Throat."

Dr. James J. Pattee, Pueblo, Colo., read a paper on "The Influence of Climate on Middle-Ear Diseases and Their Predisposing Causes."

Dr. William R. Murray, Minneapolis, read a paper on "How Far May Conditions in the Nose and Throat be Responsible for Middle-Ear Diseases?"

Dr. J. F. Barnhill, Indianapolis, read a paper on "What Improvement Can Rationally be Expected from Treatment Applied to the Nose and Throat in Cases of Middle-Ear Deafness?"

The papers of the symposium were discussed by Drs. F. P. Emerson, E. L. Jones, A. L. Kelsey, F. Stauffer, Murray and J. F. Barnhill.

Dr. F. P. Emerson, Boston: "The success of these meetings is due largely to two factors. One is the excellent executive work of the officers in getting up the program. The other is the excellent work of the local men. I know you will all join with me in a vote of thanks to the local men, for their cordial and hospitable treatment of us while here." The motion was seconded and unanimously passed by a rising vote.

Dr. J. F. Barnhill, Indianapolis: "The Executive Committee, after consultation with many of the members of the Section, wish to nominate Dr. Hugo Frey, for presentation to the House of Delegates, for election as an honorary member of the American Medical Association." (Applause.) The nomination was unanimously concurred in by the Section. [The nomination failed to come before the House, however.]

Following his nomination for honorary membership, Dr. Hugo Frey of Vienna, Austria, said: "This is such an honor as I could scarcely have expected. I have appreciated the honor and pleasure of being here. As president of the Austrian Otologic Society, I take the pleasure of bringing to the Chairman and the Executive Committee and all the members the best regards of our officers and members, and to invite you, as soon and as often as you can, to visit us and to take part in our proceedings. And I hope to give you as good a welcome as we can, but we could not extend to you better hospitality than I have enjoyed here. I thank you very much."

SECTION ON DISEASES OF CHILDREN

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order at 2:20 p. m. by the Chairman, Dr. S. M. Hamill, Philadelphia.

In the absence of Dr. E. E. Graham, Philadelphia, member of the Executive Committee, the Chairman appointed Dr. W. W. Butterworth to fill the vacancy.

Dr. S. M. Hamill, Philadelphia, read the Chairman's Address on "The Opportunities of the Pediatrist in the Prevention of Death and Diseases in Early Life."

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "A Study of Children in Reference to Enteroptosis." Discussed by Drs. W. J. Butler, Chicago, and I. A. Abt, Chicago.

On motion, Dr. Frank Allin, of Chicago, was granted permission to read a paper not on the program.

Dr. Thomas S. Southworth, New York, read a paper on "The Institutional Care of Young Infants." Discussed by Drs. Gustavus Eliot, New Haven; J. W. Cokenower, Des Doines; Langley Porter, San Francisco; I. A. Abt, Chicago; W. W. Butterworth, New Orleans; T. C. McCleave, Berkeley; R. B. Tubbs, Council Bluffs; Jessie M. McGavin, Portland; W. V. C. Francis, Los Angeles, and T. S. Southworth.

Dr. Frank Allin, Chicago, read a paper on "The Baby Tents in Chicago." Discussed by Drs. J. P. Sedgwick, Minneapolis; May Michaels, Chicago, and Frank Allin.

WEDNESDAY, JUNE 28—MORNING

Dr. I. A. Abt, Chicago, read a paper on "The Influence of Summer Heat on the Production of Gastro-Intestinal Diseases of Infants." Discussed by Drs. John W. Foss, Phoenix, Ariz.; C. L. Magee, Los Angeles; M. A. Weems, Columbia, Tex.; W. V. C. Francis, Los Angeles; Frank P. Gengenbach, Denver; Frances M. Allen, San Diego; W. W. Butterworth, New Orleans; L. T. Royster, Norfolk, Va., and I. A. Abt.

Dr. W. W. Butterworth, New Orleans, read a paper on "A Statistical Investigation Relative to the Influence of Various Methods of Infant-Feeding on the Morbidity and Mortality of Infants, Occurring in New Orleans, from August 1, 1909, to July 31, 1910."

Dr. F. C. Neff, Kansas City, Mo., read a paper on "Recent Experiences in the Artificial Feeding on 100 Infants During the First Three Months of Life."

These two papers were discussed by Drs. Thomas S. Southworth, New York; J. R. McLaren, Oakland; M. Dranga, San Diego; Langley Porter, San Francisco; J. P. Sedgwick, Minneapolis; R. B. Tubbs, Council Bluffs; A. L. Tilton, Kingman, Ariz.; L. R. DeBuys, New Orleans; I. A. Abt, Chicago; L. T. Royster, Norfolk; W. V. C. Francis, Los Angeles; C. L. Magee, Los Angeles; W. W. Butterworth and F. C. Neff.

Drs. J. P. Sedwick and F. W. Schultz, Minneapolis, read a paper on "Relationship of Gastric to Pancreatic Fat Digestion in Infants." Discussed by Dr. S. M. Hamill.

WEDNESDAY, JUNE 28—AFTERNOON

Dr. Philip King Brown, San Francisco, read a paper on "The Neurotic Basis of Juvenile Delinquency, Based on Some Special Cases of the San Francisco Juvenile Court." Discussed by Drs. John A. Colliver, Los Angeles; L. T. Royster, Norfolk, Va.; F. R. Branham, San Diego, Cal.; D. S. Hanson, Ohio, and P. K. Brown.

Dr. Langley Porter, San Francisco, read a paper on "A Consideration of Obstructions at the Pylorus Occurring in Infants." Discussed by Drs. W. W. Butterworth, New Orleans, and L. Porter.

Dr. L. Porter read a paper written by Dr. E. C. Fleischner, San Francisco, on "The Relation of Meat Ingestion to Indicanuria in Childhood." Discussed by Dr. J. P. Sedgwick, Minneapolis, and Dr. Porter.

As Dr. Butterworth desired to be relieved from duty on the Executive Committee, the Chairman appointed Dr. Frank P. Gengenbach, Denver, to fill the vacancy.

The Section was invited to be present at an autopsy in a case of congenital atresia of the common bile duct.

THURSDAY, JUNE 29—MORNING

Dr. J. W. Cokenower, Des Moines, Ia., read a paper on "Rachitis in Its Early Stages." Discussed by Dr. Elizabeth Follansbee, Los Angeles, and Dr. Cokenower.

The Executive Committee presented the following nominations as a majority report: Chairman, Dr. I. A. Abt, Chicago; Vice-Chairman, Dr. L. T. Royster, Norfolk, Va.; Secretary, Dr. J. P. Sedgwick, Minneapolis, and Delegate, Dr. William Hollopeter, Philadelphia. Moved by Dr. Southworth, and seconded, that the Secretary be empowered to cast the ballot of the Section for these officers.

It was moved and seconded that the minority be allowed to present a report. Motion was lost.

The motion of Dr. Southworth was voted on and carried.

Dr. William J. Butler, Chicago, read a paper on "Report on Brain Cases in Children." Discussed by Dr. C. C. Rogers, Chicago, and Dr. Butler.

The Section adjourned at 10:15 to meet with the Section on Practice of Medicine in the afternoon. [For papers read, see the minutes of the latter Section given on a preceding page.]

SECTION ON PHARMACOLOGY AND THERAPEUTICS

TUESDAY, JUNE 27, AFTERNOON

The Chairman, Dr. Lawrence Litchfield, Pittsburg, called the meeting to order at 2:30 p. m., in Walker Hall.

Dr. Litchfield delivered his address on "Some Considerations on the Treatment of the Arithritides." No discussion.

The Chairman stated that the Secretary of the Section, Mr. M. I. Wilbert, Washington, D. C., would not be present during the meeting and he appointed Dr. A. C. Crawford, Stanford University, Cal., to act as Secretary.

Dr. Crawford then read the report of the Secretary, also an application for pharmaceutical membership by Professor J. A. Koch, of Pittsburg.

The application was approved by the Section and referred to the House of Delegates for action.

A motion was then made by Dr. A. C. Crawford, and carried, according the privileges of the floor to the delegate from the American Pharmaceutical Association, Prof. Albert Schneider, San Francisco, as well as to members of the pharmaceutical and medical professions, not members of the Section, present during the sessions.

Professor Albert Schneider, San Francisco, delivered the address of the Delegation from the American Pharmaceutical Association.

On motions, the paper of Dr. Fussell and the Report of the Committee on the United States Pharmacopeia were ordered read before the discussion on the communication from the American Pharmaceutical Association.

Dr. M. H. Fussell, Philadelphia, in the abse ce of the Chairman of the Committee, Dr. Reid Hunt, Washington, D. C., who was in attendance on the House of Delegates, read the Report of the Committee on the United States Pharmacopeia.

In the absence of Dr. David L. Edsall, Philadelphia, the Chairman appointed Dr. F. E. Stewart, Philadelphia, a member of the Executive Committee.

Dr. M. H. Fussell, Philadelphia, read a paper entitled, "Some of the Dangers of Certain Ethical Proprietary Preparations to both Physicians and Public."

Dr. Reid Hunt, Washington, D. C., called attention to a circular which had been sent by the Committee on Useful Remedies of the Council on Pharmacy and Chemistry to teachers of pharmacology, therapeutics, etc., in medical colleges and to members of state medical examining boards. The circular asked for aid in compiling a list of important medicaments.

Dr. F. E. Stewart, Philadelphia, made a motion that the Chairman appoint a committee to consider the recommendations offered in the address of Professor Schneider, to be laid before the House of Delegates for action. Carried. The Chairman appointed as the committee to act on this, Drs. M. H. Fussell, Philadelphia; Reid Hunt, Washington, D. C., and F. E. Stewart, Philadelphia.

The reports and the paper were discussed by Drs. Oliver T. Osborne, New Haven, Conn.; Theodore G. Davis, Los Angeles; F. E. Stewart, Philadelphia; Reid Hunt, Washington, D. C.; Joseph M. King, Los Angeles; Mr. Lightheart, Sacramento, Cal., and Dr. M. H. Fussell, Philadelphia.

Dr. F. E. Stewart presented resolutions on trademarks and on radio-active waters, which were approved by the Section on Pharmacology and Therapeutics and later by the House of Delegates. [See THE JOURNAL, July 8, page 137.]

Dr. A. C. Crawford, Stanford University, Cal., read a paper on "Pressor Principle of Our Eastern Mistletoe." Discussed by Dr. Reid Hunt, Washington, D. C., and Dr. Crawford.

Dr. L. G. Visscher, Los Angeles, read a paper on "The Treatment of Chronic Hypertension." Discussed by Drs. Joseph M. King, Los Angeles; L. Duncan Bulkley, New York; William B. Snow, New York, and Dr. Visscher.

WEDNESDAY, JUNE 28, MORNING

The Chairman appointed Dr. R. L. Wilbur, San Francisco, Acting Secretary.

Drs. H. D. Arnold and Ralph C. Larrabee, Boston, presented a paper on "The Purin Content of Common Articles of Food."

Drs. A. C. Reed and George B. Wallace, New York, presented a paper on "Uric Acid and Purin Metabolism."

These papers were discussed by Drs. Theodore G. Davis, Los Angeles; L. Duncan Bulkley, New York; Lawrence Litchfield, Pittsburg, and H. B. Arnold.

Dr. F. E. Stewart, Philadelphia, presented the report of the Committee appointed to consider the recommendations in the Address of Delegation from American Pharmaceutical Association. This was approved and referred to the House of Delegates [which approved it. See THE JOURNAL, July 8].

Dr. Reid Hunt, Washington, D. C., read a paper on "Experiments on the Relation of Thyroid to Diet." Discussed by Dr. Theodore G. Davis, Los Angeles.

SYMPOSIUM ON HOOKWORM DISEASE

Dr. Reid Hunt, Washington, D. C., read the paper prepared by Dr. W. H. Schultz, Washington, D. C., on "Relative Efficiency, as Compared with Thymol, of Certain Proposed Remedies for Hookworm Disease."

Dr. E. E. Endicott, Jackson, Cal., read a paper on "Hookworm Infection in the Deep Gold Mines of California."

Dr. Herbert Gunn, San Francisco, read a paper on "Hookworm Disease."

These papers were discussed by Drs. T. G. Davis, Los Angeles; Herbert Gunn, San Francisco; John W. Colbert, Albuquerque, N. Mex.; H. R. Olliver, San Francisco; J. H. Rosenkrans, Hoboken, N. J.; Reid Hunt, Washington, D. C., and E. E. Endicott, Jackson, Cal.

WEDNESDAY, JUNE 28, AFTERNOON

Dr. Emile Schmoll, San Francisco, read a paper on "The Relative Value of Physical and Functional Signs in the Management of Failing Circulation."

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "The Relation of Cardiac Irregularities to Treatment."

Dr. W. W. Kerr, San Francisco, read a paper on "Some Factors in the Treatment of Myocardial Lesions"

Dr. R. L. Wilbur, in the absence of the author, Dr. Worth Hale, Washington, D. C., read a paper on "The Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs."

Dr. R. L. Wilbur, San Francisco, read a paper on "Some Relations of the Nervous Mechanism of the Heart to Drug Effects as Indicated by Experiments on the Terrapin."

These papers were discussed by Drs. W. B. Snow, New York; Emile Schmoll; Boardman Reed, Alhambra, Cal.; A. W. Hewlett, Ann Arbor, Mich., and Ray L. Wilbur, San Francisco.

Dr. Theodore G. Davis, Los Angeles, gave a demonstration of a new method of isolating hematin and bile acids from the urine and of the application of Torquay's test.

THURSDAY, JUNE 29—MORNING

The Chairman, Dr. Lawrence Litchfield, Pittsburg, appointed Dr. F. M. Pottenger, Monrovia, Cal., Acting Secretary.

Dr. M. H. Fussell, Philadelphia, on behalf of the Nominating Committee nominated the following as the officers of the Section for the coming year: Chairman, Dr. Torald Sollmann, Chicago; Vice-Chairman, R. L. Wilbur, San Francisco; Secretary, Mr. M. I. Wilbert, Washington, D. C., and Delegate, Dr. Reid Hunt, Washington, D. C.

On motion duly seconded and carried the Secretary was instructed to cast a ballot for the nominees, which was done and the officers declared elected.

Dr. J. O. Hirschfelder, San Francisco, read a paper on "The Use of Salvarsan."

Drs. Howard Fox and William B. Trimble, New York, presented a paper on "Further Experience with Salvarsan at the New York Skin and Cancer Hospital."

Dr. Ray W. Matson, Portland, Ore., read a paper on "The Influence of Salvarsan and Mercury on the Wassermann Reaction."

These papers were discussed by Drs. D. W. Montgomery, San Francisco; H. R. Olliver, San Francisco; M. H. Fussell, Philadelphia; L. Duncan Bulkley, New York; W. P. Murray, Caliente, Nevada; J. O. Hirschfelder, San Francisco; Howard Fox, New York, and Ray W. Matson, Portland, Ore.

Dr. Alexander Lambert, New York, read a paper on "The Use of the Different Salicylates in Rheumatism." No discussion.

Dr. Max Rothschild, San Francisco, read a paper on "The Treatment of Hemoptysis in Pulmonary Tuberculosis."

Dr. W. Jarvis Barlow, Los Angeles, read a paper on "Climate in the Treatment of Pulmonary Tuberculosis."

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "The Hypodermic Use of Citrate of Iron in Secondary Anemias."

These papers were discussed by Drs. George H. Evans, San Francisco; Dr. W. C. Voorsanger, San Francisco; John W. Foss, N. Mex.; C. A. Reinemund, El Paso, Tex.; Max Rothschild, and W. Jarvis Barlow.

THURSDAY, JUNE 29—AFTERNOON

Dr. Gerald B. Webb and G. Burton Gilbert, Colorado Springs, Colo., presented a paper on "Specific Tissue Inoculation of Vaccines." Discussed by Drs. D. W. Montgomery, San Francisco, and G. B. Webb.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Difficulties Encountered in the Therapeutic Use of Tuberculin." Discussed by Drs. George H. Evans, San Francisco; Walter Brem, Cristobal, Canal Zone; Ritter, Chicago; Edward von Adelung, Oakland, Cal.; W. C. Voorsanger, San Francisco; Charles O. Probst, Columbus, O.; George A. Hare, Fresno, Cal.; Max Rothschild, San Francisco; J. S. Trewella, Los Angeles; J. E. Pottenger, Monrovia, Cal.; M. P. Ravenel, Madison, Wis.; R. A. Peers, Colfax, Cal.; Gerald Webb, Colorado Springs, Colo.; F. E. Stewart, Philadelphia, and F. M. Pottenger.

Dr. Charles A. Shepard, Needles, Cal., read a paper on "The Production of Immunity in Tuberculosis by Intravenous Injection of Tuberculin." Discussed by Drs. Max Rothschild, San Francisco; F. M. Pottenger, Monrovia, Cal.; Edward von Adelung, Oakland, Cal.; Gerald B. Webb, Colorado Springs, Colo., and C. A. Shepard.

Dr. L. Duncan Bulkley, New York, read a paper on "Report on One Hundred and Thirty Cases of Psoriasis in Private Practice on a Strictly Vegetarian Diet." Discussed by Drs. D. W. Montgomery, San Francisco; David Paulson, Hinsdale, Ill.; J. S. Trewella, Los Angeles; Lawrence Litchfield, Pittsburg, and L. D. Bulkley.

SECTION ON PATHOLOGY AND PHYSIOLOGY

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order by the Chairman, Dr. Yandell Henderson, New Haven, Conn.

Drs. W. B. Cannon, Boston, and H. Gideon Wells, Chicago, were appointed a Committee on Nominations for officers for the coming year.

The Chairman stated that a number of applications for associate membership in the Association had been secured by officers of the Section. The Secretary read the names, and it

was moved and carried that they be presented by the Delegate of the Section to the House of Delegates for election.

The Chairman, Dr. Yandell Henderson, read his address, entitled: "Clinical Physiology—An Opportunity and a Duty." Discussed by Drs. W. H. Cannon, Boston, and William H. Welch, Baltimore.

Drs. Cannon and Washman presented a paper on "The Nature of Hunger." No discussion.

A paper entitled: "The Relation of Specific Precipitation to the Reaction of Fixation," by Dr. Frederick R. Gay, Berkeley, Cal., was presented by Dr. G. Y. Rush, of the same place. Discussed by Dr. H. G. Wells, Chicago.

Dr. H. Gideon Wells, Chicago, read a paper on "Studies on Specificity." Discussed by Dr. Yandell Henderson, New Haven, Conn.

With the formal consent of the Section, Dr. W. T. Councilman, Boston, described a case of tuberculosis in an aneurysm. Discussed by Drs. W. H. Welch, Baltimore, and H. G. Wells, Chicago.

Dr. Jessie B. Hudson, Iowa, read a paper on "Bacteriology of the Ear." Discussed by Drs. W. H. Welch and Y. Henderson.

WEDNESDAY, JUNE 28—MORNING

Dr. Halden Jones, Los Angeles, read a paper on "Photogenic Bacteria." Discussed by Dr. Yandell Henderson, New Haven, Conn.

Dr. Leonard W. Ely, Denver, read a paper on "Observations on the Pathology of Joint Tuberculosis, with Lantern Slide Demonstration." No discussion.

Dr. J. F. Hultgen, Chicago, read a paper on "The Splenic Anemias." No discussion.

Dr. J. G. Van Zwaluwenburg, Ann Arbor, Mich., read a paper on "Heart Block." Discussed by Drs. A. W. Hewlett, Michigan, and Yandell Henderson, Connecticut.

Dr. W. D. Gatch, Baltimore, read a paper on "The Use of Rebreathing in the Administration of Anesthetics and as a Therapeutic Measure." Discussed by Dr. Yandell Henderson, Connecticut.

Dr. Gerald B. Webb, Colorado Springs, read a paper on "Immunity in Tuberculosis. Its Production in Monkeys and Children." Discussed by Drs. E. S. Bullock, New Mexico; J. F. Hultgen, Chicago; Roy E. Thomas, Arizona; E. R. Le Count, Chicago; M. P. Ravenel, Wisconsin; L. B. Wilson, Minnesota, and G. B. Webb.

Dr. E. R. Le Count, Chicago, read a paper on "Bone Hyperplasia and Tumor of Bone." No discussion.

WEDNESDAY, JUNE 28—AFTERNOON

A paper on "The Pathogenesis of Balantidium Coli," by Dr. Fred B. Bowman, Manila, was presented by Dr. W. E. Musgrave, Manila. No discussion.

Dr. W. Ophuls, San Francisco, read a paper on "Subacute and Chronic Nephritis as Found in 1,000 Unselected Post-Mortem Examinations." Discussed by Drs. Leo Loeb, St. Louis, and W. Ophuls.

Dr. Samuel T. Darling, Ancon Hospital, read a paper on "Verruca Peruana." No discussion.

Dr. Glanville Y. Rusk, Berkley, Cal., read a paper on "Report of a Case of Diffuse Cerebral Sclerosis Occurring in Infancy." No discussion.

Drs. Howard T. Karsner and J. H. Austin, Philadelphia, presented a paper on "A Study of Experimental Bland Infarction." No discussion.

Dr. L. B. Stookey, Los Angeles, read a paper on "Some Urinary Findings in Eclampsia." Discussed by Dr. H. G. Wells, Chicago.

Dr. R. L. Thompson, St. Louis, read a paper on "The Influence of the Thyroid Gland on the Healing of Fractures." No discussion.

Dr. W. Warner Watkins, Phoenix, Ariz., read a paper on "The White Cells in Tuberculosis." Discussed by Drs. G. B. Webb, Colorado; Y. Henderson, Connecticut; J. T. Hultgen, Chicago, and F. M. Pottenger, California.

THURSDAY, JUNE 29—MORNING

The first order of business was the election of officers for the ensuing year. The Chairman called for the report of the Nominating Committee and the following officers were unanimously elected: Chairman, Dr. Leo Loeb, St. Louis; Vice-Chairman, Dr. William Ophuls, San Francisco; Secretary, Dr. A. W. Hewlett, Ann Arbor, Mich.; Delegate, Dr. E. R. Le Count, Chicago; Alternate, Dr. Yandell Henderson, New Haven, Conn.; Executive Committee, Drs. W. P. Rosenau, H. G. Wells and Yandell Henderson.

SECTION ON NERVOUS AND MENTAL DISEASES

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order by Dr. William A. Jones, of Minneapolis, Chairman.

Dr. H. G. Brainerd, of Los Angeles, invited the members of the Section to a Spanish dinner to be given at Casa Verdugo at 6:30 p. m. of this date.

In the absence of the permanent secretary, the chairman appointed Dr. Andrew William Hoisholt temporary secretary during the Section's work.

Dr. H. G. Brainerd, of Los Angeles, took the chair while the chairman read a clinical paper on "Resection of the Posterior Routes of the Spinal Cord." The paper was discussed by Drs. Harold N. Moyer, Chicago; W. W. Graves, St. Louis; Abrams, San Francisco, and E. D. Fisher, New York.

At the request of Dr. T. D. Crothers, who was obliged to leave the meeting, his paper on "Some Distinct Neuropsychoses Common to All Cases of Inebriety and Alcoholism" was read by title, which the chairman announced was in accordance with the By-Laws.

Dr. Charles Lewis Allen, Los Angeles, read a paper on "Arthritic Muscular Atrophy, Clinical and Experimental," which was not discussed.

A paper on "Resuscitation After Prolonged Artificial Respiration During Operations for Cerebellar Tumor," was read by Dr. Harvey Cushing, Baltimore. This paper was discussed by Drs. Fisher of New York and Graves of St. Louis.

Dr. Harold N. Moyer, of Chicago, made a summary of his paper entitled "A Hitherto Undescribed Symptom in Paralysis Agitans," which was discussed by Drs. J. H. McBride, Pasadena; Graves, St. Louis; Fisher, New York, and Moyer.

Dr. E. D. Fisher read a paper on "Differential Points in Tabes and General Paresis," which was discussed by Drs. Woodson, St. Joseph, Mo.; Moline, Denver; Hoisholt, Moody and Fisher.

On acount of the absence of the Executive Committee, the chair appointed Dr. Ross Moore, Los Angeles, Dr. Harold N. Moyer, Chicago, and Dr. Edward D. Fisher, New York.

WEDNESDAY, JUNE 28—MORNING

Dr. G. Y. Rusk, Berkeley, Cal., read a paper on "Blastomycosis." Discussed by Dr. Moyer and Dr. Graves.

Dr. Henry Herbert presented a patient suffering with hyperhidrosis universalis. Dr. Herbert stated the history and symptoms, and the patient was examined. Discussed by Drs. Fisher, Oettinger and Moline, of Denver; Murphy, of Kansas City, and Herbert.

Dr. W. W. Graves, St. Louis, read a paper on "The Recognition of Syphilis," which was discussed by Drs. Burnett and Robinson, of Kansas City, and Dr. Graves.

Dr. Ross Moore, Los Angeles, read a paper on "The Recognition of the Pre-Neurasthenic and Pre-Insane Condition in the Young with Reference to Prevention," which was discussed by Drs. T. J. Orbison, Los Angeles; Robinson, Kansas City; Allen, Los Angeles; Woodson, St. Joseph, Mo.; Dorsey, Sonoma County, Cal.; Crosby, Oakland; Louise Patterson, Vineland, N. J.; Oettinger, Denver; Gundry, Baltimore, and Ross Moore.

Dr. Thomas J. Orbison, Los Angeles, read a paper on "The Training Camp Idea in the Treatment of Neurasthenia and Allied Functional Nervous Diseases." This was discussed by Drs. Woodson, Gundry, Case and Orbison.

The Chairman appointed the following as a Nominating Committee: Dr. H. G. Brainerd, Los Angeles; Dr. S. G. Burnett, Kansas City, and Dr. W. E. Dold, New York.

WEDNESDAY, JUNE 28—AFTERNOON

A paper on "The Diagnosis and Prognosis of the Unfit" was read by Dr. Louise Patterson, Vineland, N. J., which was discussed by Drs. Harold N. Moyer, Chicago; John W. Robertson, Livermore, Cal.; E. W. Moores, Boston, and A. W. Hoisholt, Stockton, Cal.

The next paper on the program was the substitute paper by Dr. Robert Perry Smith, Washington, "Multiple Neuritis, with Paralysis of the Hypoglossal Nerve."

Dr. A. W. Hoisholt, Stockton, Cal., read his paper on "Korsakow's Psychosis and the Amnestic Symptom-Complex, with a Report of Three Cases."

These two papers were discussed by Dr. David S. Booth, St. Louis, and Dr. S. Grover Burnett, Kansas City.

Dr. Daniel Crosby, Fruitvale, Cal., read the next paper on "The Problem of State Care of Drug and Alcohol Habitues."

A paper was read by Dr. George E. Pettey on "Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment."

These two papers were discussed by Drs. S. Grover Burnett, Kansas City; A. W. Hoisholt, H. G. Brainerd, Los Angeles; Ross Moore, Los Angeles; G. H. Moody, San Antonio, Tex., and Robertson, Livermore, Cal.

The report of the nominating committee was read and adopted as follows: For the next chairman, Dr. Edward D. Fisher, New York City; vice-chairman, Dr. G. H. Moody, San Antonio, Tex.; delegate, Dr. W. A. Jones, Minneapolis. The secretary holds over for three years.

Dr. Pettey then made a motion that the attention of the House of Delegates be called to the matter of passing a resolution or taking some action in regard to the labeling of alcoholic and opium drugs. The motion was seconded and carried.

After a short speech of thanks by the Chairman the section adjourned.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

TUESDAY, JUNE 27—AFTERNOON

Dr. Norman Bridge, Los Angeles, called the meeting to order, and, in the absence of Dr. W. A. Evans, Chicago, Chairman, was elected Chairman on motion of Dr. Oscar Dowling, Shreveport, La. By motion of Dr. Dowling, also, and in absence of Dr. C. Hampson Jones, Baltimore, Secretary, Miss Agnes Morris, New Orleans, was elected Secretary.

In absence of Dr. W. A. Evans, Chicago, Chairman Bridge read the former's Chairman's Address and Oration on State Medicine.

Dr. T. R. Crowder gave abstract of paper in manuscript prepared by himself, Dr. J. A. Denny and Dr. C. A. Schroyer, all of Chicago, entitled "Ventilation of Cars." Discussed by Dr. J. G. Holmes, Alamogordo, N. Mex.; Dr. Liston H. Montgomery, Chicago, and Dr. T. R. Crowder, Chicago.

Dr. F. Park Lewis, Buffalo, N. Y., delivered an address on "Prevention of Ophthalma Neonatorum." Discussed by Drs. G. T. Schwartz, Providence, R. I.; F. Park Lewis, Buffalo, N. Y., and H. M. Bracken, St. Paul. In accordance with a suggestion in the paper that a committee be appointed for the formulation of a standard law for the prevention of ophthalmia neonatorum to be recommended for adoption by the House of Delegates, and in accordance with a motion, Chairman Bridge appointed Dr. G. T. Schwartz, Providence, R. I., chairman, with request to select two other members of this Section as the committee.

Dr. H. M. Bracken, St. Paul, read a paper on "Control of Small-Pox in Rural Districts and in Cities of a Hundred Thousand Population or less." Discussed by Drs. E. Stuver, Fort Collins, Colo.; J. N. Hurty, Indianapolis, and H. M. Bracken, St. Paul, Minn.

On motion by Dr. H. M. Bracken, St. Paul, duly seconded and carried, the Chairman appointed a Nominating Committee of three to report at 9 a. m., June 29, 1911, namely, Drs. J. N. Hurty, Indianapolis; Oscar Dowling, Shreveport, La., and W. C. Gorgas.

On motion of Dr. Liston H. Montgomery, Chicago, the Section decided to refer to the House of Delegates, with favorable recommendation, a resolution providing a new clause in the Principles of Medical Ethics which was presented by Dr. H. M. Bracken, St. Paul. [The House did not act on the suggestion. The wording proposed was printed in THE JOURNAL, July 8, 1911, page 141.] Dr. M. P. Ravenel, Madison, Wis., read the report of the Committee on Standard Methods of Procedure for the Control and Prevention of Tuberculosis, by himself and Dr. John R. Moore, of the Bureau of Animal Industry in Washington. An amendment was proposed by Dr. H. M. Bracken, St. Paul, Minn., that the qualifying word "guarded" be inserted in said report before the word "indemnity," and was carried; and, thus amended, the report, on motion of Dr. Ravenel, was ordered referred, with favorable recommendation, to the House of Delegates.

Dr. J. N. Hurty, Indianapolis, read the report of the Committee on State Methods of Public Education in Hygiene, prepared by himelf and Dr. W. F. Snow, Sacramento, Cal., and Dr. Oscar Dowling, Shreveport, La. This report was discussed by Drs. W. F. Snow, Sacramento, Cal.; Frances M. Greene, Cambridge, Mass.; William C. Woodward, Washington, D. C.; Oscar Dowling, Shreveport, La., and George A. Hare, Fresno, Cal.

WEDNESDAY, JUNE 28—MORNING

At the Chairman's request, the stenographer read a paper on "Control of Venereal Disease by a Municipality," by Dr. Guy L. Kiefer, Detroit, and Dr. George M. Kober, Washington, D. C.

Dr. George L. Eton, San Francisco, read a paper on "Prophylaxis of Venereal Disease in Large Cities."

Dr. Frances M. Greene, Cambridge, Mass., read a paper on "The Reportability of Syphilis and Gonorrhea."

These three papers on venereal diseases were discussed by Drs. Herbert Gunn, San Francisco; Frances M. Greene, Cambridge, Mass.; W. F. Snow, Sacramento, Cal.; E. Stuver, Fort Collins, Colo., and S. A. Knopf, New York.

The Chairman, in view of the importance of the matter appointed Drs. L. M. Powers, Los Angeles; Frances M. Greene, Cambridge, Mass., and William F. Snow, Sacramento, Cal., as a committee to consider the three papers just read and to formulate a resolution on venereal diseases and report it for presentation to the House of Delegates.

Dr. D. W. Graham, Chicago, read a paper on "Disinfectants," by Drs. W. E. Post and H. K. Nicoll, Chicago. Discussed by Drs. F. O. Tonney, Philadelphia, and D. W. Graham, Chicago. On motion of Dr. Graham, duly seconded, the paper was referred to the Council on Pharmacy and Chemistry, with a view to the appointment of a commission on standardization of disinfectants.

Dr. C. C. Browning, Monrovia, Cal., read a paper on "Houses for Working Men," by Drs. C. C. Browning, Monrovia; G. H. Kress, Los Angeles, and C. B. Ball, Chicago. No discussion.

Dr. W. C. Woodward, Washington, D. C., read a paper on "Methods for Controlling Diphtheria," by Drs. C. Hampson Jones, Baltimore; M. L. Price, Baltimore, and W. C. Woodward, Washington, D. C. He then read his comments showing points wherein he differed from the majority of the committee. Discussed by Dr. L. M. Powers, Los Angeles.

The Chairman read a paper on "Pasteurization of Milk." by Drs. P. G. Heinemann and E. O. Jordan, Chicago. Discussed by Drs. L. M. Powers, Los Angeles and W. C. Woodward, Washington, D. C.

WEDNESDAY, JUNE 28—AFTERNOON

Dr. Norman Bridge, Los Angeles, read a paper on "Typhoid Fever," by Drs. L. L. Lumsden and W. C. Rucker, Washington, D. C., and A. W. Freeman, Richmond, Va. Discussed by Drs. Norman Bridge, Los Angeles, and Rupert Blue, San Francisco.

Dr. Rupert Blue, San Francisco, read a paper on "Methods for Control of Plague."

In connection with said paper Chairman Bridge read a report of the committee, composed of Drs. Rupert Blue, San Francisco; W. F. Snow, Sacramento, Cal., and Elmer E. Heg, Seattle, Wash.

These two papers were discussed by Drs. George E. Abbott, Pasadena, Cal.; J. W. Kerr, Washington, D. C.; Elmer E. Heg, Seattle, and N. K. Foster, Oakland, Cal.

The Chairman read the report of the committee, on the three papers on venereal disease. The report was referred to the House of Delegates. [The text of the report was published July 8.]

The Section voted unanimously to send, as proposed by Chairman Bridge, to Dr. W. A. Evans at Ann Arbor, Mich., the following dispatch: "The members of the Section on Preventive Medicine and Public Health of the American Medical Association now in session here send you their joy and congratulations on your elevation to the degree of doctor of public health and would felicitate also the university on its recognition of your merits and your work."

Dr. E. S. Godfrey, Phoenix, Ariz., read a paper on "Laws and Methods for Control of Tuberculosis in a Resort State," prepared by Drs. E. S. Godfrey, Phoenix, Ariz., and T. Y. Hull, San Antonio, Tex. Discussed by Drs. Henry B. Stehman, Pasadena, Cal.; Norman Bridge, Los Angeles, and G. H. Sumner.

Chairman Bridge read a paper on "Controlling Hydrophobia in the Human Subject," by Dr. A. M. Stimson, Washington, D. C. Discussed by Drs. Norman Bridge, Los Angeles, and Calvin S. White, Oregon.

THURSDAY, JUNE 29, MORNING

The Chairman, declaring the Executive Committee short one member, appointed Dr. Elmer E. Heg, Seattle.

Dr. J. N. Hurty, Indianapolis, Chairman of Committee on Nominations, read a report making the following recommendations: For Chairman, Surgeon Rupert Blue, San Francisco; Vice-Chairman, Dr. Rosalie Slaughter Morton, New York; Secretary, Dr. C. Hampson Jones, Baltimore. On motion of Dr.

Liston H. Montgomery, Chicago, this report was unanimously adopted.

Dr. George L. Leslie, Los Angeles, read a paper on "Physical Examination of School Children." This paper was discussed by Drs. Norman Bridge, Los Angeles, and Liston H. Montgomery, Chicago.

Dr. E. C. Beach, Los Angeles, read his and Dr. E. B. Hoag's (Pasadena, Cal.) joint paper as a constituent of that falling under the title: "Physical Examination of School Children."

On motion of Dr. George L. Leslie, seconded by Dr. E. C. Beach, both of Los Angeles, Dr. W. A. Evans, Chicago, and Dr. R. L. Wilbur, Executive Head of the Medical Department of Stanford University, were made a committee of two to confer with a committee of the National Educational Association meeting in San Francisco, commencing July 8, to formulate and make effective the proposition for educational hygiene and medical inspection of schools.

Dr. F. O. Tonney, Chicago, read a paper on "Throat Culture Methods."

Dr. Oscar Dowling, Shreveport, La., introduced a statement which he desired sent to the House of Delegates, recommending that definite instruction be given to the public in the importance of a pure milk supply and the necessity for effective supervision to obtain the same; that the score card of the official daily instructors' association be adopted as the standard in the scoring of dairies; that the tuberculin test be required, and that legislation be urged to make effective the provisions named above. On motion, this was ordered referred to the House of Delegates.

Dr. Harley E. MacDonald, Los Angeles, delivered an address on "Blood-Pressure and Its Bearing on Public Health." Discussed by Drs. Liston H. Montgomery, Chicago, Norman Bridge and Harley E. MacDonald, both of Los Angeles.

Dr. Rosalie Slaughter Morton, New York, read a paper on "Woman's Place in the Public Health Movement." Discussed by Dr. William H. Welch, Baltimore; F. Park Lewis, Buffalo, N. Y.; Drs. Frances M. Greene, Cambridge, Mass.; Liston H. Montgomery, Chicago; Gage Day, Kingston, N. Y.; Rosalie S. Morton, and Norman Bridge, Los Angeles.

Dr. William H. Welch, Baltimore, presented a letter from Dr. Richard P. Strong, head of the Biologic Division of the U. S. Government Laboratories in Manila, in reference to Dr. Strong's work in collaboration with representatives from other governments in the matter of the investigation and control of the plague in Manchuria; Dr. Welch then presented a paper by Dr. Strong and the latter's assistant, Dr. Teague, on "Methods of Infection in Pneumococcic Plague."

The Chairman called attention of the Committee on Nominations to their omission to nominate a representative from the Section to the House of Delegates, and requested that nomination be supplied at the afternoon session.

Dr. Rosalie Slaughter Morton, New York, presented a resolution to refer her paper to the Council on Medical Education. Dr. William H. Welch, Baltimore, seconded the resolution, which was adopted.

THURSDAY, JUNE 29, AFTERNOON

The Chairman read the following telegram from Dr. W. A. Evans, Chicago, in response to the Section's telegram addressed to him at Ann Arbor, Mich., congratulating him on reception of his degree as Doctor of Public Health. "Thanks for your courtesy. Thanks for your hard work for the Section."

At the Chairman's request, the stenographer read a paper on "Legal Principles of Police Power," by Dr. W. A. Evans, Chicago, whereupon the Chairman briefly adverted to minority reports: one from Dr. Hemenway, and another from Judge Harry Olson of Chicago, which papers he stated he had in his possession.

The Chairman gave extracts from a paper on "Purification of Sewage," by Mr. Rudolph Hering, New York.

The Chairman summarized a paper on "Ventilation of Schoolrooms," by the Chicago Commission of Ventilation: Dr. Edson, Dr. Tonney, Mr. Lewis and others.

The Chairman presented a nomination from Committee on Nominations for representative to the House of Delegates, namely, Dr. W. A. Evans, Chicago, which nomination, on motion of Dr. Liston H. Montgomery, Chicago, was accepted, and the Secretary instructed to cast the ballot of the Section for the nominee.

The Chairman called attention to the failure of the Committee on Nominations to present an Alternate Delegate; Dr. Frank B. Wynn, Indianapolis, nominated Dr. L. M. Powers, Health Officer, Los Angeles. The Chairman declared, "It is moved, then, that the Section instruct the Secretary to cast the unanimous ballot of the Section for Dr. L. M. Powers for Alternate Member of the House of Delegates."

Dr. Liston H. Montgomery, Chicago, inquired if the Committee on Nominations should not bring in a nomination for the Oration on State Medicine, and at the instance of the Chairman, nominated Dr. Rupert Blue, Section Chairman-Elect, for said oration, which nomination was duly seconded and carried.

The Chairman then presented to the Section its future Chairman and Orator on State Medicine, "Dr. Rupert Blue, of San Francisco, but particularly of the United States of America." who made an appropriate response.

Mr. William Mulholland, Chief Engineer of the Water Bureau of Los Angeles, delivered an address on "The Water Supply of the City of Los Angeles, Present and Future," which was discussed by Dr. Norman Bridge, Los Angeles.

Dr. Frank B. Wynn, Indianapolis, read a paper on "Public Exhibits for Permanent Installation," which was discussed by Drs. A. J. Read, Battle Creek, Mich.; E. Stuver, Ft. Collins, Colo., and S. A. Knopf, New York.

Dr. G. H. Sumner, of the Iowa State Board of Health, moved that the report of the Committee on Throat Cultures be referred to the Council on Health and Public Instruction, and that as the work is as yet incomplete, the committee be continued and authorized to conduct further investigation during the ensuing year. Carried.

Dr. Frank B. Wynn, Indianapolis, and Dr. F. E. Abbott, Los Angeles, then discussed the former's paper mentioned before in this report.

The Chairman gave an abstract of a paper on "Control of Drinking-Water," by Dr. Walter Forrest Dutton, Carnegie, Pa.

At the request of Chairman-Elect Blue, who had been called to the Chair, the stenographer read extracts from a paper on "Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes," by Dr. G. E. Fell, Buffalo, N. Y. Discussed by Dr. Liston H. Montgomery, Chicago.

Chairman Blue read extracts from a paper on "Infantile Paralysis: Methods for Its Control," by Drs. W. H. Frost, Washington, D. C., and S. G. Dixon, Harrisburg, Pa. Discussed by Dr. G. H. Sumner.

At the request of Chairman Blue, the stenographer read extracts from a paper on "Control of Contagion Through Doctors and Nurses," by Drs. Heman Spalding, J. D. Rawlings and H. Cohen, Chicago.

On motion of Dr. L. M. Powers, Los Angeles, for adjournment, Chairman Blue declared the Section adjourned *sine die*.

THE REGISTRATION AT LOS ANGELES

List of Members who Registered at the Los Angeles Session, June, 1911

The total registration at the Los Angeles session was 2,153.

In addition to the names of members given below, a few others registered whose names are not given. These have not yet completed their membership, some having been subscribers only who sought membership without making the formal application or fulfilling the other requirements of the Constitution and By-Laws.

Below are given two summaries, one by sections and one by states.

REGISTRATION BY SECTIONS

Practice of Medicine	622
Surgery	594
Obstetrics and Gynecology	180
Ophthalmology	127
Laryngology, Otology and Rhinology	101
Diseases of Children	82
Pharmacology and Therapeutics	31
Pathology and Physiology	39
Stomatology	8
Nervous and Mental Diseases	98
Dermatology	27
Preventive Medicine and Public Health	112
Genito-Urinary Diseases	18
Hospitals (new section, just created by House of Delegates)	0
Registered without specifying any one Section	85

REGISTRATION BY STATES

Alabama	6	Indiana	63
Arizona	34	Iowa	55
Arkansas	11	Kansas	35
California	907	Kentucky	20
Colorado	48	Louisiana	21
Connecticut	8	Maine	1
District of Columbia	21	Maryland	18
Florida	3	Massachusetts	20
Georgia	4	Michigan	23
Idaho	4	Minnesota	45
Illinois	162	Mississippi	5

Missouri	4	South Dakota	9
Montana	10	Tennessee	12
Nebraska	30	Texas	48
Nevada	12	Utah	24
New Hampshire	3	Vermont	2
New Jersey	19	Virginia	7
New Mexico	14	Washington	22
New York	74	West Virginia	10
North Carolina	4	Wisconsin	31
North Dakota	4	Wyoming	1
Ohio	60	Hawaiian Islands	1
Oklahoma	11	Canal Zone	1
Oregon	22	Porto Rico	1
Pennsylvania	67	Manila	1
Rhode Island	4	Mexico	1
South Carolina	3		

Surgery

Abbott, Frank F., National City, Cal.
Abbott, Geo. K., Loma Linda, Cal.
Adams, J. C., Superior, Wis.
Adams, Lemuel P., Oakland, Cal.
Adler, Sr., Lewis H., Philadelphia.
Ainsworth, F. K., San Francisco.
Alden, Eliot, Los Angeles.
Alderson, M. E., Russellville, Ky.
Alderson, S. P., Russellville, Ky.
Alluben, John E., Rockford, Ill.
Allen, Alfred G., Deadwood, S. Dak.
Andrews, E. Wyllys, Chicago.
Allen, S. H., Salt Lake City, Utah.
Anderson, Chas. W., Los Angeles.
Anderson, J. Howard, Marytown, W. Va.
Andrews, Howard, Hollywood, Cal.
Anton, Francis L., Los Angeles.
Appel, Theodore B., Lancaster, Pa.
Bacon, D. N., Ontario, Cal.
Bacon, John E., Miami, Ariz.
Baird, Alvin W., Portland, Ore.
Baldwin, Sam'l C., Salt Lake City, Utah.
Ball, C. D., Santa Ana, Cal.
Ball, W. A., Wanette, Okla.
Ballard, W. R., Bay City, Mich.
Barbat, J. Henry, San Francisco.
Barkley, A. H., Lexington, Ky.
Barnett, Chas. E., Ft. Wayne, Ind.
Barr, H. A., Beaumont, Tex.
Bartlett, Willard, St. Louis.
Bartero, H. P., Los Angeles.
Batchelor, Wm. A., Milwaukee, Wis.
Beckett, W. W., Los Angeles.
Becton, Joe, Greenville, Tex.
Beebe, J. L., Anaheim, Cal.
Beede, S. C., David City, Neb.
Bell, H. D., Oakland, Cal.
Berry, Andrew J., Los Angeles.
Bevan, Arthur Dean, Chicago.
Biggs, M. D., Bowling Green, Mo.
Blanchar, W. O., Grand Rapids, Wis.
Bottomley, John T., Boston
Boulter, J. H., Detroit.
Bowen, A. B., Maquoketa, Iowa.
Bowers, Chas. E., Wichita, Kan.
Bowles, Frank H., Oakland, Cal.
Bowman, L. D., Jamestown, N. Y.
Boyes, Joseph H., Hebron, Neb.
Bradley, W. J., Cedar Rapids, Ia.
Branch, J. S., Elizabeth, La.
Brewer, George E., New York.
Bruin, M. R., Strasburg, Va.
Bristow, A. T., Brooklyn.
Broughton, G. A., Los Angeles.
Brown, David C., Danbury, Conn.
Brown, Harry L., Washington, D. C.
Brown, Ira E., Kelvin, Ariz.
Brown, N. J., Tehachapi, Cal.
Brown, Rexwald, Santa Barbara, Cal.
Brown, W. L., El Paso, Tex.
Bryant, Ernest O., Los Angeles.
Buchanan, R. E., Independence, Iowa.
Buck, S. C., Grinnell, Iowa.
Burke, Alex. W., Bos Obispo, C. Z.
Burks, Floyd L. R., Fresno, Cal.
Burke, W. B., Redlands, Cal.
Burlew, J. M., Santa Ana, Cal.
Burlingame, D. E., Elgin, Ill.
Butcan, S. H., Oakland, Cal.
Byington, F. S., Los Angeles.
Byrne, John J., St. Joseph, Mo.
Cabot, Hugh, Boston.
Cahill, L. L., Springer, N. Mex.
Caldwell, J. A., Salisbury, N. C.
Campbell, G. E., Pasadena, Cal.
Cantrell, C. H., Greenville, Tex.
Carpenter, Estella, Yerington, Nev.
Carpenter, H. L., Goldroad, Ariz.
Carrington, P. M., Port Townsend, Wash.
Carter, Martin G., San Leandeo, Cal.
Carter, W. E., Los Angeles.
Cather, E. J., Loring, La.
Caven, C. L., San Diego, Cal.
Cayior, Chas. E., Penville, Ind.
Chaffin, R. C., Los Angeles.
Champion, J. A., Colton, Cal.
Christenson, C. R., Starbuck, Minn.
Christie, R. J., Quincy, Ill.
Clapper, Wm. L., St. Louis.
Clark, Vernon G., San Diego, Cal.
Clark, W. A., San Leandro, Cal.
Clemons, E. Jay, Aberdeen, S. Dak.
Coblentz, L. B., Santa Maria, Cal.
Cochran, Guy, Los Angeles, Cal.
Coffey, R. C., Portland, Ore.
Coffey, Walter B., San Francisco.
Colbert, John W., Albuquerque, N. Mex.
Coleman, J. E., Canton, Ill.
Collins, Clifford U., Peoria, Ill.
Collins, F. K., Philadelphia.
Colloran, J. Edgar, Los Angeles.
Compton, Geo. W., San Diego, Cal.
Conner, Milton C., Middletown, N. Y.
Connolly, T. W., San Francisco.
Conwell, Wm., Neligh, Neb.
Cook, E. J., Los Angeles.
Cook, George J., Indianapolis.
Cook, L. H., Bluffton, Ind.
Cooke, A. B., Nashville, Tenn.
Cooney, H. C., Princeton, Minn.
Cooper, O. O., Hinton, W. Va.
Corwin, R. W., Pueblo, Colo.
Cottrell, E. L., Scotia, Cal.
Craig, Alex. R., Chicago.
Craig, R. W., Phoenix, Ariz.
Craig, William H., Upland, Cal.
Crile, George W., Cleveland.
Criley, C. Holmes, Los Angeles.
Critchlow, Jno. F., Salt Lake City.
Crowder, Thomas R., Chicago.
Crowley, D. D., Oakland, Cal.
Culverlson, N. W., Massillon, O.
Cunningham, John G., Spokane, Wash.
Cushing, Harvey, Baltimore.
Dameron, J. D., Stockton, Cal.
Darrah, Rufus E., Newport, R. I.
Daugherty, Charles A., South Bend, Ind.
Davis, B. B., Omaha, Neb.
Davis, Carl B., Chicago.
Davis, George William, Lincoln, Cal.
Dawley, Charles G., Los Angeles.
Day, Floyd M., Eugene, Ore.
De Garmo, W. B., New York.
Dillon, Edward T., Los Angeles.
Doane, Bert L., Nel Norte, Colo.
Dorr, E. E., Des Moines, Iowa.
Doty, George E., New York.
Duncan, James A., Toledo, Ohio.
Duncan, Rex D., Los Angeles.
Dundas, Robert C., Los Angeles.
Duringer, W. A., Fort Worth, Tex.
Eberhard, E. L., So. Whitley, Ind.
Ehrmann, Fred J. E., Chicago.
Eichler, Alfred, San Francisco.
Ellis, E. F., Fayetteville, Ark.
Ely, Leonard W., Denver.
Enos, M. M., Oakland, Cal.
Evans, C. W., Modesto, Cal.
Fairchild, David S., Clinton, Ia.
Fairchild, Fred R., Woodland, Cal.
Faris, C. M., Sacramento, Cal.
Fortling, Jno. R., Marine Ill.
Ferbert, John C., Los Angeles.
Ferguson, Robert Henry, East Orange, N. J.
Ferry, F. C., Los Angeles.
Fielding, George A., Sawtelle, Cal.
Finley, Theodore G., Los Angeles.
Fiske, Harold A., Pasadena, Cal.
Fitzgerald, W. W., Stockton, Cal.
Fitzgibbon, Henry M., Omaha, Neb.
Flaherty, Frederick, Syracuse, N. Y.
Floyd, J. C. M., Steubenville, O.
Foster, John, New Castle, Pa.
Frazier, C. H., Philadelphia.
Freeman, J. W., Lead, S. Dak.
Freeman, W. F., Los Angeles.
French, J. Rollin, Los Angeles.
Fuller, Hulbert, Los Angeles.
Fuller, William, Chicago.
Funkhouser, Robert M., St. Louis.
Gammon, C. P., Tacoma, Wash.
Garcelon, Frank, Pomona, Cal.
Garrett, Edward H., Los Angeles.
Gatch, Willis D., Baltimore.
Gates, Howard B., Los Angeles.
Gibbon, L. L., Lowry, Minn.
Giesen, Charles G., Superior, Wis.
Gillespie, T. W., Peoria, Ill.
Grimstead, W. F., Cairo, Ill.
Goldman, Max, Kansas City, Mo.
Gordon, Howard S., Santa Ana, Cal.
Graber, C. Lee, Cleveland.
Graham, David W., Chicago.
Graham, F., Lisbon, Ohio.
Grant, William W., Denver.
Graves, John H., San Francisco.
Gray, Isabel S., St. Louis.
Gray, Samuel Thomas, Albia, Ia.
Green, G. W., Chicago.
Grove, Jno. L., Newton, Kan.
Guiterns, Ramon, New York.
Gundry, F. J., Bakersfield, Cal.
Guthrie, George W., Wilkes-Barre, Pa.
Haase, Charles, Elmira, N. Y.
Hahn, B., Seattle, Wash.
Haines, W. D., Cincinnati.
Haire, Robert D., Clinton, Mo.
Hall, A. L., Fulton, N. Y.
Hall, Giles S., Los Angeles.
Hamilton, Jo, Oakland, Cal.
Hamlin, Oliver D., Oakland, Cal.
Hand, William C., Hartley, Iowa.
Haning, H. C., Dayton, Ohio.
Harbert, Ellis, Stockton, Cal.
Harding, George F., Salt Lake City.
Harris, Charles H., Ft. Worth, Texas.
Harris, Junius B., Sacramento, Cal.
Harris, M. L., Chicago.
Harry, Charles Rees, Stockton, Cal.
Hartford, P. C., East Palestine, Ohio.
Hartman, Frank T., Waterloo, Ia.
Hartwell, John B., Boston.
Hawley, Donly C., Burlington, Vt.
Hearne, J. C., San Diego, Cal.
Helms, John S., Tampa, Fla.
Henderson, E. E., Chicago.
Hendricks, Harry H., Dallas, Tex.
Henry, Edwin C., Omaha, Neb.
Herrington, Howard, San Francisco.
Hess, H. A., San Francisco.
Hessert, William, Chicago.
Higgs, A. A., Boise, Idaho.
Hill, Corwin T., Akron, Ohio.
Hirschman, Louis J., Detroit.
Hitchcock, William W., Los Angeles.
Holcomb, Arthur L., Compton, Cal.
Holmes, Raynor E., Canon City, Colo.
Holmquist, W. S., Ely, Nev.
Hood, J. J., Cicero, Ill.
Horton, Warren N., Los Angeles.
Hosmer, S. J., Salt Lake City.
Howard, Henry W., Los Angeles.
Howard, Joseph Louis, San Francisco.
Howe, William, Shingle House, Pa.
Huggins, W. L., Los Angeles.
Hunkin, S. T., San Francisco.
Hunt, F. N., Blue Earth, Minn.
Huntington, T. W., San Francisco.
Hupp, Frank LeMoyne, Wheeling, W. Va.
Hutchinson, Clarence, Pensacola, Fla.
Ickes, Edgar M., Fremont, Ohio.
Jacobs, Harry A., Indianapolis.
Jacobs, S. Nicholas, San Francisco.
Jelks, Jno. L., Memphis, Tenn.
Jennings, George D., Corina, Cal.
Jesse, J. W., Santa Rosa, Cal.
Jolly, W. J., Oklahoma, Okla.
Jonas, A. F., Omaha, Neb.
Johnson, Carl, Montrose, Colo.
Johnson, Levi D., Whittier, Cal.
Johnson, T. B., Frederick, Md.
Johnston, Herbert A., Anaheim, Cal.
Jones, W. Harriman, Long Beach, Cal.
Judd, E. S., Rochester, Minn.
Kauli, L. P., Los Angeles.
Keidel, Albert, Baltimore.
Kelleher, Thomas F., Des Moines, Iowa.
Kelly, Elmer E., Pomona, Cal.
Kendall, Oscar J., San Diego, Cal.
Kennedy, R. D., Globe, Ariz.
Kenney, Jno. W., San Antonio, Texas.
Kenyon, C. G., San Francisco.
Kenyon, Frank P., Pomona, Cal.
Kerr, Archibald A., Salt Lake City.
Ketcherside, J. A., Yuma, Ariz.
Key, J. Walter, Taft, Cal.
Keckland, W. A., Fort Collins, Colo.
Kidder, Frank W. K., Los Angeles.
Kinnew, Lyell C., Los Angeles.
Kirby, Leonidas, Harrison, Ark.
Kirkpatrick, John L., Los Angeles.
Kistler, H. D., Butte, Mont.
Klein, W. C., Los Angeles.
Kleimboehl, Julius Walter, Random Lake, Wis.
Knapp, Harry B., Ensenada, P. R.
Knorp, Francis F., San Francisco.
Knott, Van Buren, Sioux City, Ia.
Kugeler, Henry B. A., San Francisco.
Ladd, Fred. H., St. Joseph, Mo.
Larimore, Frank Carter, Mt. Vernon, Ohio.
Larzaiere, J. V., Escondido, Cal.
Lauzer, Edward S., Rock Springs, Wyo.
Le Conte, Robert G., Philadelphia.
Legge, Robert T., McCloud, Cal.
Lenz, J. Alvin, Chicago.
Levison, Charles G., San Francisco.
Lewis, Dean D., Chicago.
Lewis, William M., Los Angeles.
Libby, George W., Spokane, Wash.
Littig, Lawrence W., Davenport, Iowa.
Livingston, W. R., Oxnard, Cal.
Lockwood, Charles D., Pasadena, Cal.
Lobingier, Andrew Stewart, Los Angeles.
Lohse, John Louis, Oakland, Cal.
Long, Alfred Dow, San Diego, Cal.
Long, Francis A., Madison, Neb.
Loomis, Mellville, L., Los Angeles.
Loper, Asbury N., Dinuba, Cal.
Lord, John Prentiss, Omaha, Neb.
Loughridge, J., Lincoln, Kan.
Lower, William E., Cleveland.
Lowman, J. B., Johnstown, Pa.
Lund, Fred B., Boston.
Lynn, Bascom, San Angelo, Tex.
MacCoy, William E., Pasadena, Cal.
MacDonald, Joseph, Jr., East Orange, N. J.
MacGowan, Granville, Los Angeles.
Mackenzie, Kenneth A. J., Portland, Oregon.
Mackenzie, Wilbur W., Spokane, Wash.
MacLafferty, B. N., Aberdeen, Wash.
MacLaren, Archibald, St. Paul.
Maclay, A. I., Delavan, Ill.
Maginn, E. F., Butte, Mont.
Mahoney, Stephen A., Holyoke, Mass.
Manson, P., Fresno, Cal.
Markley, P. L., Rockford, Ill.
Markolf, Harry Foster, Pasadena, Cal.
Martelle, Henry A., Hartford, Conn.
Martin, Edward, Philadelphia.
Martin, H. R., Riverside, Cal.
Martin, Joseph D., New Orleans.
Mason, Franklin, M. D., Rossville, Ill.
Mathews, Joseph M., Louisville, Ky.
Mattison, Eugene G., Pasadena, Cal.
Mattison, Fitch C. E., Pasadena, Cal.
Mattison, S. J., Pasadena, Cal.
Maury, J. W. Draper, Rochester, Minn.
Maxmeller, Harry G., Los Angeles.
Mayo, C. H., Rochester, Minn.
McAdory, Robert J., Los Angeles.
McArthur, Lewis L., Chicago.
McArthur, W. T., Los Angeles.
McCall, H. B., Kansas City, Mo.
McCarty, Isaac A., Los Angeles.
McChord, R. C., Lebanon, Ky.
McClellan, Ben R., Xenia, Ohio.
McCoy, Alva D. S., Pasadena, Cal.

McCullough, G. T., Missoula, Mont.
McDonald, William B., New Augusta, Ind.
McHugh, Thomas, Rialto, Cal.
McKinnie, L. H., Colorado Springs, Colo.
McKnight, Everett J., Hartford, Conn.
McLaren, Jay L., Oakland, Cal.
McNab, Thomas R., Los Angeles.
McNaught, F. H., Denver.
McRae, Floyd W., Atlanta, Ga.
McReynolds, Robert P., Los Angeles.
McVety, Albert F., Toledo, Ohio.
Meacher, Byron C., Portage, Wis.
Mendenhall, T. E., Beaverdale, Pa.
Middleton, George W., Salt Lake City,
Miller, Austin, Porterville, Cal.
Miller, S. M., Peoria, Ill.
Miller, S. R., Knoxville, Tenn.
Milton, Joseph L., Oakland, Cal.
Mintener, John W., Minneapolis.
Misenheimer, C. A., Charlotte, N. C.
Mitchell, A. R., Lincoln, Neb.
Mitchell, James F., Washington, D. C.
Mitchell, P. S., Iola, Kan.
Moe, Anton J., Heron Lake, Minn.
Moore, Edward C., Los Angeles.
Moore, James E., Minneapolis.
Morris, Robert T., New York.
Morrison, N. H., Los Angeles.
Morss, Clarence R., Coleraine, Minn.
Morton, A. W., San Francisco.
Morton, Lewis B., Los Angeles.
Murphy, Fred T., Boston.
Murphy, J. D., Chicago.
Murray, Dwight H., Syracuse, N. Y.
Murray, Olga, Los Angeles.
Murray, T. J., Butte, Mont.
Myers, Mark C., Sacramento, Cal.
Myers, Thomas Chalmers, Los Angeles.
Naffziger, Howard C., San Francisco.
Nathanson, Joseph L., Chadwick, Ill.
Neff, James M., Spokane, Wash.
Nelson, Thomas J., Los Angeles.
Newcomb, Arthur T., Pasadena, Cal.
Newcomb, Ralph H., Pasadena, Cal.
Nichols, Charles B., Los Angeles.
Nicholson, C. M., St. Louis.
Norwood, E. E., Kingston, N. Y.
N George D., Williamsport, Pa.
Oates, T. K., Martinsburg, W. Va.
Oatman, Homer C., San Diego, Cal.
Ochsner, A. J., Chicago.
O'Neal, Robert McWilliam, San Francisco.
O'Neill, Bernard J., Jr., San Diego, Cal.
O'Reilly, Archer, St. Louis.
Osgood, C. F., Ogden, Utah.
Owens, Frederick Francis, Cherry Creek, Nev.
Pahl, P. C. H., Los Angeles.
Parker, A. S., Needles, Cal.
Parker, P. J., San Diego, Cal.
Parrish, J. C., Vandalia, Mo.
Patton, W. T., New Orleans.
Pearse, Herman E., Kansas City, Mo.
Peironnet, F. M., Wilmington, Cal.
Pelton, A. L., Elgin, Ill.
Pennington, J. R., Chicago.
Percy, J. F., Galesburg, Ill.
Perkins, J. M., Denver.
Petersen, J. H., Wilmar, Minn.
Peterson, Anders, Los Angeles.
Phelan, Claude C., Ferndale, Cal.
Phelan, J. R., Oklahoma, Okla.
Phillips, Percy T., Santa Cruz, Cal.
Pickard, J. E., Reno, Nev.
Pickels, W. H., El Paso, Texas.
Pidcock, J. W., Ogden, Utah.
Pierce, C. W., Los Angeles.
Plummer, Charles G., Salt Lake City.
Porter, Elmer R., Omaha, Neb.
Powell, Alvin, Oakland, Cal.
Powell, David, Marysville, Cal.
Powers, Charles A., Denver.
Powers, J. C., Hampton, Iowa.
Priestley, S. Floyd, Stockton, Cal.
Preston, James L., Los Angeles.
Quain, E. P., Bismarck, N. Dak.
Raley, Franklin H., Salt Lake City.
Rand, D. H., Portland, Ore.
Rand, Howard F., St. Helena Sanitarium, Cal.
Reardon, F. D., Bowling Green, Ky.
Reber, W. W., Lehighton, Pa.
Reed, Horace, Oklahoma City.
Rees, R. B., Bakersfield, Cal.
Reynolds, Harry B., Palo Alto, Cal.
Reynolds, W. G., Kansas City, Mo.
Rich, Ezra C., Ogden, Utah.
Richardson, W. W., Los Angeles.
Rickey, A. W., Port Costa, Cal.
Rietz, Paul C., Evansville, Ind.
Rinkenberger, F. W., Tacoma, Wash.
Roberts, Harold H., Maywood, Ill.
Roberts, John B., Philadelphia.
Robertson, H. M., Santa Ana, Cal.
Robison, M. A., Reno, Nev.
Rogers, Cassius C., Chicago.
Rogers, John, New York.
Root, R. R., Corona, Cal.
Rose, Francis M., Faribault, Minn.
Rosenberger, H. I., Whittier, Cal.
Rosenkrans, James H., Hoboken, N. J.
Ross, George G., Philadelphia.
Ross, R. O., Fresno, Cal.
Rothganger, George, San Francisco.
Royster, Hubert A., Raleigh, N. C.
Russ, Witten Booth, San Antonio, Texas.
Ryan, Walter, Springfield, Ill.
Sadler, William S., Chicago.
St. Clair, Raymond, Reno, Nev.
Sample, C. H., Saginaw, Mich.
Sarles, Wilbur T., Sparta, Wis.
Savage, Philip Monroe, Chino, Cal.
Savre, L., Osage, Iowa.
Sawyer, Alfred D., Fort Fairfield, Maine.
Schmauss, L. F., Alexandria, Ind.
Scott, A. C., Temple, Texas.
Scott, W. S., Chillicothe, Ohio.
Seeher, C. W., Los Angeles.
Seifert, George W., San Jose, Cal.
Sellery, A. C., Long Beach, Cal.
Sewall, Charles Albert, Los Angeles.
Seymour, James H., Los Angeles.
Shannon, J. M., Oakland, Cal.
Shattuck, Hobart P., Tucson, Ariz.
Shaw, Lawrence M., Osceola, Neb.
Sheffield, Homer H., Caliente, (U. C. Co.), Nev.
Shell, W. T., Corsicana, Texas.
Shere, Oscar M., Denver.
Sherk, Howard, Pasadena, Cal.
Sherman, Harry M., San Francisco.
Sherrard, E. E., Los Angeles.
Shine, Francis E., Bisbee, Ariz.
Shong, D. C., San Bernardino, Cal.
Shurtleff, Fred C., Los Angeles.
Siggins, J. B., Oil City, Pa.
Skinner, Charles N., Port Jervis, N. Y.
Skinner, W. W., Geneva, N. Y.
Sleicher, J. M., Chehalis, Wash.
Smith, A. J., Leavenworth, Kan.
Smith, Ethan H., San Francisco.
Smith, E. O., Cincinnati.
Smith, Franklin Buchanan, Frederick, Md.
Smith, Rea, Los Angeles.
Smith, Thomas Hardy, Pomona, Cal.
Snyder, George S., San Francisco.
Sommer, George N. J., Trenton, N. J.
Soule, C. E., Beardstown, Ill.
Southworth, Henry E., Los Angeles.
Southworth, Harry T., Prescott, Ariz.
Spalding, Alfred E., Lucerne, Minn.
Speer, Grant Gould, Los Angeles.
Speer, N. C., Osawatomie, Kan.
Spencer, Floyd H., St. Joseph, Mo.
Sprague, H. R., Salt Lake City.
Stadfield, C. G., Los Angeles.
Stanton, E. MacD., Schenectady, N. Y.
Steddom, Francis W., Los Angeles.
Steine, David W., Lima, Ohio.
Steinwand, O. W., Selma, Cal.
Stevens, B. F., El Paso, Texas.
Stevens, George M., Los Angeles.
Stinchfield, Herbert C., Los Angeles.
Still, J. J., Los Angeles.
Stillman, Stanley, San Francisco.
Stoddard, T. A., Santa Barbara, Cal.
Stover, W. M., San Luis Obispo, Cal.
Stratton, Robert T., Oakland, Cal.
Stout, D. P., Vicksburg, Miss.
Stremmel, S. C., Macomb, Ill.
Swartz, Thomas Benton, Chicago.
Swedenburg, Francis G., Ashland, Oregon.
Swenson, Carl G., Chicago.
Swift, Edward, Los Angeles.
Swindt, Joseph K., Pomona, Cal.
Swope, Samuel D., Deming, N. Mex.
Sullivan, John Francis, San Francisco.
Sutton, H. T., Zanesville, Ohio.
Tait, T. Dudley, San Francisco.
Taylor, A. Miles, San Francisco.
Taylor, Fred W., Provo, Utah.
Taylor, Raymond G., Los Angeles.
Terry, Wallace Irving, San Francisco.
Thomas, Charles P., Los Angeles.
Thompson, Claude A., Muskogee, Okla.
Thompson, Elmer H., Burbank, Cal.
Thompson, Frederick Henry, Fitchburg, Mass.
Thompson, W. Otis, Dodge City, Kan.
Thornburgh, Major Robert M., Medical Corps U. S. Army.
Thorpe, A. C., Los Angeles.
Tinker, Martin B., Ithaca, N. Y.
Tipton, William R., East Las Vegas, N. Mex.
Townsend, Wisner R., New York.
Townsend, V. Roy, Long Beach, Cal.
Trewhella, James S., Rivera, Cal.
Trueheart, M., Sterling, Kan.
Tuckerman, J. E., Cleveland.
Tyroler, A., Los Angeles.
Vance, A. J., Harrison, Ark.
Vander Veer, Edgar A., Albany, N. Y.
van Kasthoven, J. J. A., Los Angeles.
Van Vranken, Gilbert, Passaic, N. J.
Van Werden, W., Des Moines, Ia.
Varner, G. W., Evansville, Ind.
Vaughan, Roger T., Chicago.
Voorhees, H. M., Los Angeles.
Wagner, Charles Brentano, Chicago.
Walker, Alonzo B., Canton, Ohio.
Walker, Wade H., Wichita Falls, Texas.
Walthall, T. J., San Antonio, Texas.
Warmer, C. A., Ontario, Cal.
Watson, Samuel H., Blairstown, Iowa.
Watts, Stephen H., Charlottesville, Va.
Wayland, Charles Aprenia, San Jose, Cal.
Welsh, H. G., Hutchinson, Kan.
Werner, Richard F., Eau Claire, Wis.
White, H. O., Chicago.
Whiteside, John R., Kingman, Ariz.
Whitman, C. H., Los Angeles.
Wiggins, J. L., East St. Louis, Ill.
Wilde, Kate, Los Angeles.
Wiley, Edwin H., Aermosillo, Sonora, Mexico.
Wilbolt, J. C., Manhattan, Kan.
Williams, Clara, Berkeley, Cal.
Williams, Edith Hammond, San Francisco.
Williams, Fred H., Selma, Cal
Williams, T. J., Hiteman, Iowa
Williams, T. M., Palo Alto, Cal.
Wilis, William Le Moyne, Los Angeles.
Wilson, A. P., Los Angeles.
Winslow, Randolph, Baltimore.
Wiser, F. C., Denver.
Wishard, William N., Indianapolis.
Witherbee, O. O., Los Angeles
Wood, John H., Hubbard, Texas
Wood, J. W., Long Beach, Cal.
Wood, W. C., Decatur, Ill.
Woods, E. F., Janesville, Wis.
Woodward, W. M., McKeesport, Pa.
Worthington, George R., San Diego, Cal.
Wright, A. L., Carroll, Iowa.
Wright, C. A., Los Angeles, Cal.
Yacoubi, H. B., Pasadena, Cal.
Yerxa, Charles W., Los Angeles.
Yocom, James R., Tacoma, Wash.
Yocum, M. G., Mentone, Ind.
Zerfing, Charles E., Los Angeles.
Zimmermann, A. F., Los Angeles.
Zobel, Alfred J., San Francisco.
Zwaluwenburg, C. Van, Riverside, Cal.

Obstetrics and Diseases of Women

Abbott, Geo. E., Pasadena, Cal.
Alexander, A. F., Paterson, N. J.
Amason, L. P., Wichita Falls, Texas.
Anderson, Winslow, San Francisco.
Andrews, Frank T., Chicago.
Apjohn, Henri, Yuma, Ariz.
Arthur, Mattie L., Omaha, Neb.
Bacon, Charles E., Los Angeles.
Baer, J. S., Camden, N. J.
Barnhart, William, Los Angeles.
Barnes, Samuel S. P., Massillon, Ohio.
Barney, N. Eugenia, Sterling, Col.
Benjamin, Arthur E., Minneapolis.
Bland, P. Brooks, Philadelphia.
Bowers, L. G., Dayton, Ohio.
Braasch, W. F., Rochester, Minn.
Braunwarth, Emma L., Muscatine, Iowa.
Branso, Laura H., Iowa City, Iowa.
Bresee, Paul, Los Angeles.
Brickell, J. B., Americus, Kan.
Brimhall, Silas J., Los Angeles.
Broadrup, George L., Cumberland, Md.
Brown, J. Colville, Los Angeles.
Bryson, Charles W., Los Angeles.
Bullard, Rose T., Los Angeles,
Burns, T. Mitchell, Denver.
Butz, R. E., York, Pa.
Cahe, E. M., Los Angeles.
Campbell, Harry M., Parkersburg, W. Va.
Carpenter, Frank B., San Francisco.
Cartwright, Margaret Green, Albuquerque, N. Mex.
Clark, J. A., Chicago.
Clark, S. M. D., New Orleans.
Clarke, William T., Los Angeles.
Clarkson, W. H., Manhattan, Kan.
Clegg, Joseph T., Siloam Springs, Ark.
Coates, Benjamin O., Pasadena, Cal.
Coffey, Titian, Los Angeles.
Cosgrave, Millicent, San Francisco.
Cowles, J. E., Los Angeles.
Creamer, Michael S., Los Angeles.
Crise, David, Escondido, Cal.
Cunningham, Martha E., Garnett, Kan.
Darling, Charles B., Boston.
Denison, John M., Crooksville, O.
Dennis, Mary E., Los Angeles.
Dorsett, Walter B., St. Louis.
Downs, Alfred J., Los Angeles.
Doyle, O. B., Fresno, Cal.
Dugdale, R. B., South Bend, Ind.
Dunsmoor, John M., Los Angeles.
Dunsmoor, Nannie C., Los Angeles.
Durrie, Anna B., La Fayette, Ind.
Dwire, Francis Belmont, Gardena, Cal.
Edelman, D. W., Los Angeles.
Edwards, Thomas C., Salinas, Cal.
Ellis, William Clyde, Phoenix, Ariz.
Ewer, Edward N., Oakland, Cal.
Fairchild, F. D., Los Angeles.
Feeley, Matilda A., San Francisco.
Findley, Palmer, Omaha, Neb.
French, Charles E., San Francisco.
Fuller, D. E., Hastings, Mich.
Gatchell, Ella Frances, Chico, Cal.
Gates, L. M., Scranton, Pa.
Gibb, W. Travis, New York.
Gibbons, Henry Walter, San Francisco.

Gibbs, Roy S., San Bernardino, Cal.
Goldspohn, Albert, Chicago.
Greer, Bertha Allen, Lamoni, Ia.
Guinn, J. H., Arkansas City, Kan.
Gutline, Alice B., Denver
Guthrie, James R, Dubuqque, Ia.
Hablutzel, C. E., San Jose, Cal.
Haley, James Farrar, Midland, Texas.
Hornibrook, E., Cherokee, Iowa.
Harter, Isaac F., Stronghurst, Ill.
Harvey, C. W., Anaheim, Cal.
Hayes, Nellie S., Los Angeles.
Heisz, Emily J., Chicago.
Herrtaler, Arthur E., Kansas City, Mo.
Herzog, George K., San Francisco.
Hobbs, Alice L., Indianapolis.
Hoffmann, Charles von, San Francisco.
Holleran, James F., Los Angeles.
Hollister, J. C., South Pasadena, Cal.
Hoyt, D. C., Chicago.
Hromadka, A. B., Sawtelle, Cal.
Ide, Charles Edward, Redlands, Cal.
Ingraham, Clarence B., Denver.
Irwin, John R., Charlotte, N. C.
Jacobson, Julius H., Toledo, Ohio.
Jewell, Robert T., Los Angeles.
Johnson, H. L. E., Washington, D. C.
Johnson, Walter Sydney, Los Angeles.
Johnston, J. Ambrose, Cincinnati.
Kjaerbge, C. P., Fresno, Cal
Kurtz, Carl, Los Angeles.
Lamb, J. L., Los Angeles.
Larrabee, F. W., Alton, Ill.
Lazard, Edmond M., Los Angeles.
Lieth, H. O. von der, San Francisco.
Lewis, W. E., Seaside, Ore.
Lewis, Will J., Santa Ynez, Cal.
Lindley, Walter, Los Angeles.
Lockwood, E. H., Bayard, Iowa.
Loomis, E. E., Janesville, Wis.
Lorney, Robert N., Prescott, Ariz.
MacEvitt, John Cowell, Brooklyn.
Magee, Chester Lea, Los Angeles.
March, E. J., Canton, Ohio.
Marshall, Clara, Philadelphia.
Martin, Franklin H., Chicago.
Mayne, William Hawthorne, Los Angeles.
McNeille, Lyle G., Los Angeles.
Melvin, J. Tracy, Porterville, Cal.
Miller, C. Jeff., New Orleans.
Miller, S. M., Knoxville, Tenn.
Miller, William E., Columbus, Ill.
Montgomery, E. E., Philadelphia.
Moore, M. L., Los Angeles.
Moore, James S., Portland, Ore.
Morris, Margaret M., Los Angeles.
Morrison, N. D., San Mateo, Cal.
Mortensen, Wm. S., Palms, Cal.
Munter, Leo, San Francisco.
Murray, Janet, Schenectady, N. Y.
Neff, G. R., Farmington, Iowa.
Newman, Henry P., San Diego, Cal.
Newman, W. H., Long Beach, Cal.
Newton, John C., San Francisco.
Norton, Frank L., Los Angeles.
Orella, F. R., San Francisco.
Perry, Samuel W., New Castle, Pa.
Peters, Lulu H., Los Angeles.
Polak, John Osborn, Brooklyn.
Reddick, James T., Paducah, Ky.
Rice, Ed E., Shawnee, Okla.
Richmond, J. M., El Paso, Texas.
Richmond, W. W., Clinton, Ky.
Rogers, Thomas L., Long Beach, Cal.
Ross, Moses H., Los Angeles.
Rothenberg, Samuel, Cincinnati.
Sadler, Lena K., Chicago.
Scholl, Albert John, Los Angeles.
Scull, William B., Philadelphia.
Sexton, J. C., Rushville, Ind.
Shulean, Nellie S., Cambridge, Minn.
Winegar-Simpson, Abbie, Long Beach, Cal.
Simpson, F. F., Pittsburg.
Skeel, Donald W., Los Angeles.
Skinner, Cynthia A., Los Angeles.
Slater, Catherine B., Aurora, Ill.
Smith, Richard R., Grand Rapids, Mich.
Somers, George Burbank, San Francisco.
South, Lillian H., Bowling Green, Ky.
Speaker, W. T, Manson, Iowa.
Spiller, William H., New York.
Stark, Bertha Wagner, San Francisco.
Steele, H. L., Pittsburg, Kan.
Stillians, Daniel C., Redlands, Cal.
Swahlen, Percy H., St. Louis.
Tebbetts, Hiram B., Los Angeles.
Teel, A. W., Kahoka, Mo.
Thompson, Charles E., Dunsmuir, Cal.
Tompkins, Christopher, Richmond, Va.
Trueman, J. E., San Jose, Cal.
Van Voorhees, G. T., San Pedro, Cal.
Vowinckel, F. W., San Francisco.
Weiss, A. S., San Francisco.
Walker, Edwin, Evansville, Ind.
Weber, A. L., Cucumonga, Cal.
Welsh, Prudence M., Long Beach, Cal.
Wetherill, Horace G., Denver.
Wheat, A. F., Manchester, N. H.
Willits, Emma K., San Francisco.
Wilson, Carl G. W., Palo Alto, Cal.
Greene-Wilson, Dora, Kansas City, Mo.
Wilson, J. Miller, Pasadena, Cal.
Wolferman, A. Gertrude, Indianapolis.

Genito-Urinary Diseases

Baker, Andrew J., Grand Island, Neb.
Campbell, R. R., Chicago.
Curatts, Carl E., Oakland, Cal.
Dillingham, F. S., Los Angeles.
Evans, George B., Dayton, Ohio.
Freeman, Wiley H., Lockney, Texas.
Handly, James W., Nashville, Tenn.
Howard, L. V., Denver.
Jorgenson, H. C., Salt Lake City.
Laubersheimer, George A., Los Angeles.
Mackay, A. E., Portland, Oregon.
Norton, C. Worth, Los Angeles.
Rigdon, R. L., San Francisco, Cal.
Rosenkranz, Herbert Augustus, Los Angeles.
Roth, Leon Joseph, Los Angeles.
Sutherland, J. Lue, Grand Island, Neb.
Williams, Ralph, Los Angeles.
Wieg, John, Allegheny, Pa.

Practice of Medicine

Abrahm, Henry, San Francisco.
Adams, A. W., Bellevue, Mich.
Adams, Charles B., Los Angeles.
Adams, S. C., Huntsville, Mo.
Adelung, Edward von, Oakland, Cal.
Aitkens, H. B., Le Sueur Center, Minn.
Alcorn, Archibald J., Chicago.
Alderman, Mason C., Sedalia, Mo.
Algie, Robert, Linn, Kan.
Allan, J. T. M., Los Angeles.
Allen, Addie B., Los Angeles.
Allen, H. W., San Francisco.
Allen, Silas Gilbert, Clarkson, Neb.
Allen, Will L., National City, Cal.
Alvarez, Walter Clement, San Francisco.
Anderson, N., Chicago.
Anderson, William Edward, Farmville, Va.
Andrews, H. J., Hollywood, Cal.
Andrews, J. W., Mankato, Minn.
Armstrong, J. M., Alhambra, Cal.
Armstrong, Veturia C., Los Angeles.
Arnold, Charles Saxon, Oakland, Cal.
Arnold, Horace D., Boston.
Ash, Rachel L., San Francisco.
Ashburn, P. M., San Francisco.
Atkinson, Charles E., Los Angeles.
Austin, M. O., San Francisco.
Austin, R. E., San Diego, Cal.
Austin, S. A., Los Angeles.
Avey, John L., Redlands, Cal.
Babcock, W. D., Los Angeles.
Bailey, F. A., Hillsboro, Ore.
Bailey, H. T., Courtland, Ariz.
Baird, James Gordon, Riverside, Cal.
Bakewell, Benjamin, Santa Barbara, Cal.
Balsley, J. A., Santa Monica, Cal.
Barham, Frank F., Los Angeles.
Barlow, W. Jarvis, Los Angeles.
Barnes, Henry E. W., Santa Ana, Cal.
Bartram, W. C., Newburgh, N. Y.
Battelle, E. L., Los Angeles.
Baumgaertner, Otto C., Rockport, Ind.
Bay, Samuel G., Quaker City, O.
Beach, Everette, Los Angeles.
Beckley, Chester C., Lancaster, Mass.
Bemisderfer, J. R., Monee, Ill.
Bender, F. P. Caro, Mich.
Bennett, Charles L., Los Angeles.
Betten, H. J., Garneill, Mont.
Beyer, H., Oceano, Cal.
Bierring, Walter L., Des Moines, Iowa.
Biggar, Henry R., Glen, N. Y.
Biggs, E. L., Hot Springs, Ark.
Billings, Frank, Chicago.
Blackstone, Thomas, Circleville, Ohio.
Blanchard, M. E., Marseilles, Ill.
Blanchard, Robert B., Jamestown, N. Y.
Bodenstab, William H., Bismarck, N. Dak.
Bond, L. L., Denison, Iowa.
Booth, John R., Seattle, Wash.
Bowcock, C. M., Springfield, Ill.
Bowerman, Albert C., El Monte, Cal.
Bowers, H. C., Scircleville, Ind.
Bowman, William B., Los Angeles.
Boyd, Walter M., Los Angeles.
Boyers, James S., Decatur, Ind.
Brem, Walter, Cristobal, C. Z.
Bridges, J. R., Kahoka, Mo.
Briggs, Eldorado C., Wilmington, Ohio.
Briggs, Solon, Pasadena, Cal.
Brittin, A. L., Athens, Ill.
Bromley, Frederick W., Palmyra, Wis.
Broome, Joseph R., New York.
Brown, Albert E., Conde, S. Dak.
Brown, Charlotte, Los Angeles.
Brown, Everett O., Decatur, Ill.
Brown, H. C., San Jose, Cal.
Brown, Philip King, San Francisco.
Brown, R. W., Bay City, Mich.
Brummall, J. D., Salisbury, Mo.
Bryan, Tony L., Evansville, Ind.
Bryant, Allen L., Glendale, Cal.
Bullard, Charles T., Los Angeles.
Bullard, William R., Los Angeles.
Bullen, F. W., Hibbing, Minn.
Bullock, N. H., San Jose, Cal.
Burch, E. Lee, Raymond, Cal.
Burke, Edward W., Highland, Cal.
Burgess, J. A. W., Iowa Falls, Iowa.
Burnham, Clark J., Berkeley, Cal.
Burnham, F. R., San Diego, Cal.
Burnett, A. L., Silverton, Colo.
Bush, J. H., Sterling Colo.
Byall, H. M., Montpelier, Ohio.
Campbell, Donald, Butte, Mont.
Cannon, G. S., Fornfelt, Mo.
Carey, J. W., Whitesboro, Texas.
Carson, J. K., Los Angeles.
Carson, L. O., New Augusta, Ind.
Carter, J. M. G., Los Angeles.
Carter, Marion D., Los Angeles.
Carver, C. R., Sterling City, Tex.
Cessna, F. Lee, Louisville, Ky.
Chapin, Clifford S., Great Barrington, Mass.
Chapline, F. L., Orange, Cal.
Chapman, William H., Corona, Cal.
Chase, Raymond E., Glendale, Cal.
Chase, William S., Akron, Ohio.
Choate, Joseph Lynn, Los Angeles.
Clark, John I., Santa Ana, Cal.
Clark, W. R. P., San Francisco.
Clausins, M. F., Siletz, Ore.
Clow, G. B. N., Oakland, Cal.
Clune, W. M., Darwin, Texas.
Coble, T. J., Shelbyville, Tenn.
Colburn, John R., Los Angeles.
Comstock, Daniel Delos, Glendale, Cal.
Condit, Joseph D., Pasadena, Cal.
Conner, Ada Scott, San Jose, Cal.
Connor, W. E., Cumby, Texas.
Cooke, T. Bates, Laconia, N. H.
Cooly, Abbott, L., Chicopee, Mass.
Coppedge, W. E., Alturas, Cal.
Corey, Martha Dunn, La Jolla, Cal.
Cornwall, Edward E., Brooklyn.
Cotter, P. G., Los Angeles.
Cottle, Cassius C., Los Angeles.
Cowan, James Rea, Los Angeles.
Crawford, Alexander, Mount Vernon, Iowa.
Criley, B. H., Dallas Center, Ia.
Crocker, M. M., Lordsburg, N. M.
Cummings, R. S., Long Beach, Cal.
Cunnane, T. E., Ventura, Cal.
Cunningham, R. L., Los Angeles.
Curtiss, F. Homer, Denver.
Cutler, Elbridge G., Boston.
Cutter, James Bird, Los Angeles.
Daniel, Sam G., Marshall, Ark.
Dawson, John L., Charleston, S. C.
Dearborn, Luther Gould, Jr., Derry, N. H.
Deering, Walter E., Los Angeles.
De Hass, Thomas W., Indianapolis.
DeLap, R. H., Richland Center, Wis.
Derrick, Joseph S., Los Angeles.
Devitt, Thomas G., Los Angeles.
Dickinson, George S., Erie, Pa.
Dillon, I. H., Auburn, Neb.
Doig, Robert L., San Diego, Cal.
Donnell, T. C., Long Beach, Cal.
Dougherty, P. S., Los Angeles.
Dresser, Ralph O., Paso Robles, Cal.
Dryer, John L., Santa Ana, Cal.
Duchein, C. F., Baton Rouge, La.
Duffield, William, Los Angeles.
Duncan, J. B., Bedford, Ind.
Durgin, F. L., Winnebago, Minn.
Earing, Edwin W., Los Angeles.
Eastman, Henry A., Jamestown, N. Y.
Ebright, George E., San Francisco.
Eddy, George S., Los Angeles.
Elliott, Arthur R., Chicago.
Ellis, Melvin, Los Angeles.
Emmal, Frank S., San Francisco.
Evans, C. W., Los Angeles.
Evans, George H., San Francisco.
Eversole, H. O., Los Angeles.
Fasig, Harry B., Los Angeles.
Fassett, Charles Wood, St. Joseph, Mo.
Favill, Henry B., Chicago.
Fawcett, C. E., Stewartville, Minn.
Fay, Albert S., Schenectady, N. Y.
Fellows, Alfred, Los Angeles.
Fick, Edward P., Seattle, Wash.
Fields, J. D., Austin, Texas.
Fish, Charles W., Los Angeles.
Fisher, Eugene M., Roswell, N. Mex.
Fleming, James W., Brooklyn.
Fly, Edward M., National City, Cal.
Forbes, Harvey J., Pasadena, Cal.
Forline, Henry H., Tustin, Cal.
Forsythe, Hugh, Baltimore.
Fox, A. L., Danville, Ill.
Fox, J. A., Hinton, W. Va.
Fox, Willard Henry, Los Angeles.
Foxworthy, Frank W., Indianapolis.
Franing, E. C., Galesburg, Ill.
Frankenheimmer, Jule B., San Francisco.
Franklin, J. H., Guadalupe, Cal.
Frary, Burdett S., Los Angeles.
Frets, Alfred E., Sellersville, Pa.
Frick, Donald J., Los Angeles.
Frick, Euclid B., Lieut.-Col., U. S. A., Presidio of San Francisco.
Fry, P. B., Benicia, Cal.
Fuller, G. E., Monson, Mass.
Fuller, John A., Las Vegas, Nev.
Fulton, Dudley, Los Angeles.
Furst, O. J., Peabody, Kan.
Gammell, H. W., Madison, Minn.
Garber, J. B., Dunkirk, Ind.
Gardner, George Albert, Chicago.
Gardner, M. N., Greenleaf, Kan.
Gary, I. Clark, Chicago.
Gerhard, Samuel P., Philadelphia.
Gerson, T. Perceval, Los Angeles.
Gildersleeve, J. R., Richmond, Va.
Gillespie, George Y., Duck Hill, Miss.
Gillespie, J. F., Greencastle, Ind.
Gilmore, Amelia Weed, Auburn, N. Y.
Giltner, H. A., U. S. S. *Glacier*, D. C.

Girdlestone, C. W., Riverside, Cal.
Godfrey, E. L. B., South Pasadena, Cal.
Godin, Arthur F., Los Angeles.
Goff, H. Neville, San Diego, Cal.
Taylor-Goodman, C. W., Albuquerque, N. Mex.
Goodman, Minerva, Stockton, Cal.
Goodwin, Edward J., St. Louis.
Gore, D. C., Marshall, Mo.
Graham, James W., Lompoc, Cal.
Gray, Etta, Los Angeles.
Gregory, Idris Briggs, Ontario, Cal.
Greene, Charles Lyman, St. Paul.
Greene, E. B., Chicago.
Greenwood, Hugh A., Ancon, C. Z.
Guan, Herbert, San Francisco.
Gwaltney, Sylvester, Los Angeles.
Hagedorn, Jesse Lee, Los Angeles.
Hagedorn, Mary E., Pasadena, Cal.
Hall, E. N., Bowling Green, Ky.
Hall, J. N., Denver.
Hamilton, James K., Alameda, Cal.
Hamilton, N. H., Santa Monica, Cal.
Hamman, Amos F., Long Beach, Cal.
Hanbridge, W. B, Ogdensburg, N. Y.
Haney, J. T., Tuscumbia, Ala.
Hansen, Carl A., Argyle, Wis.
Hare, Charles B., San Jose, Cal.
Harris, Eva L., Oakland, Cal.
Harris, Seale, Mobile, Ala.
Harris, Thomas W., Eugene, Ore.
Harrison, George W., Denver.
Hartzell, W. H., Allentown, Pa.
Hasencamp, Oscar, Toledo, Ohio.
Hasler, Walter T., Lehi, Utah.
Hay, Emil O., Los Angeles, Cal.
Haynes, John R., Los Angeles.
Hazelett, I. W., San Bernardino, Cal.
Heaton, Charles Austen, McCutchenville, Ohio.
Henderson, Edward, Pomona, Cal.
Hennemuth, J. L., Waterford, Cal.
Herbert, Henry, Los Angeles.
Hewlett, Albion Walter, Ann Arbor, Mich.
Hildreth, H., Delano, Cal.
Hill, Walter B., Long Beach, Cal.
Hindman, S I., Inglewood, Cal.
Hines, B. M., Uvalde, Tex.
Hinman, C. J., Los Angeles.
Hodgson, A. J., Waukesha, Wis.
Holben, B. E., Mt. Auburn, Ill.
Holbrook, R. W., Perkins, Okla.
Holder, R. E., Columbus, Ind.
Holliday, D. A., Fairmount, Ind.
Holmes, J. G., Alamogordo, N. Mex.
Holmes, T. R., Oakland, Cal.
Hoover, C. F., Cleveland, Ohio.
Horel, F. R., Arcata, Cal.
Horn, W. L., Boulder, Colo.
Hornor, Dayton H., Alpaugh, Cal.
Horrell, C. R., Galesburg, Ill.
Howard, W. N., Cape Girardeau, Mo.
Holtgen, J. F., Chicago.
Hunter, Geo. G., Los Angeles.
Hunter, Henry C., Milford, Utah.
Hyatoon, H. A., Los Angeles.
Hurst, S. T., Greenview, Ill.
Hutcheson, W. R., Greencastle, Ind.
Hutchinson, Randall, Los Angeles.
Hutton, W. S., Fornfelt, Mo.
Hyslop, F. R., Whitewater, Wis.
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Irvys, James T., Lakeside, Cal.
Irwin, W. H., Oakland, Cal.
Jackson, Craven, Los Angeles.
Jackson, J. A., Hollywood, Cal.
Jacobs, Louis C., San Francisco.
Jacobson, August, Chicago.
Janes, John E., Pasadena, Cal.
Jaques, W. K., Chicago.
Jenks, Clarence A., Los Angeles.
Jennison, John E., San Diego, Cal.
De Jernett, W. B., Commerce, Tex.
Johnson, J. H., Los Angeles.
Johnson, Milbank, Los Angeles.
Johnson, W. C., Thurman, Iowa.
Johnston, E. J., So. Pasadena, Cal.
Johnston, J. H., Dutch Flat, Cal.
Jones, Allen A., Buffalo.
Jones, N. W., Portland, Ore.
Jones, W. F., San Rafael, Cal.
Jung, Frans A. R., Washington, D. C.
Kaess, Andrew J., Fargo, N. Dak.
Kerber, H. C., Chicago.
Ketcherside, E. B., Yuma, Ariz.
Keyn, Will S., Los Angeles.
King, Chas. L., Pasadena, Cal.
King, Jno. C., Banning, Cal.
King, Jos. M., Los Angeles.
Kinzon, Frank S., North Manchester, Ind.
Kleinhans, M. A., Milwaukee, Wis.
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Kremer, John, Grand Rapids, Mich.
Kremers, Henry, Holland, Mich.
Krum, A. G., Erie, Pa.
Lambert, Alexander, New York.
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Lang, J. H., Centertown, Mo.
Langan, J. C., Clinton, Iowa.
Lawrence, G. H., Galesville, Wis.
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Lawson, Thos. J., Long Pine, Neb.
Lee, Jas. R., Columbus, Ky.
Lee, Roger I., Boston, Mass.
Le Fevre, J. P., Venice, Cal.
Levengood, H. Wilson, Ocean Park, Cal.
Lierle, Geo. A., Quincy, Ill.
Linde, Herman, Cyrus, Minn.
Lindsay, John C., Chicago.
Linnell, B. M., Chicago.
Lissner, Henry H., Los Angeles.
Livingston, G. M., Manistique, Mich.
Logan, Hugh, The Dalles, Ore.
Lorini, Raffaele, Coronado, Cal.
Luton, Geo. R., Los Alamos, Cal.
Lux, Fred W., San Francisco.
MacKenzie, David H., Millbrook, N. Y.
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Manion, P. H., Charlotte, Iowa.
Marcy, Jr., Alex., Riverton, N. J.
Marsden, T. H., Fennimore, Wis.
Martin, Albert R., Chicago.
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Mather, H. H., Chicago.
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McArthur, J. H., Portland, Ore.
McCarthy, S. L., Altoona, Pa.
McClelland, J. L., Los Banos, Cal.
McComb, C. F., Duluth, Minn.
McDaniel, John L., Gardena, Cal.
McElroy, J. B., Memphis, Tenn.
McGarry, J. A., Los Angeles.
McGeary, Wm. J., Sharpsburg, Pa.
McMillan, Edwin H., Pasadena, Cal.
McMillin, V. H., Waller, Tex.
McMurtrey, C. T., Kidder, Mo.
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Mehler, F. C., New London, Iowa.
Middlekamp, M. S., Pueblo, Colo.
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Miller, Dewitt C. R., Mason and Dixon, Pa.
Miller, E. D., Logansport, Ind.
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Mitchell, W. A., Colfax, Wash.
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Moore, Edwin W., Franklin, Pa.
Morgan, Arthur C., Philadelphia.
Morgan, D. A., Nilewood, Ill.
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Morrison, Sidney K., Reno, Nev.
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Moyer, S. R., Monroe, Wis.
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Murray, D. P., Dunkirk, Ind.
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Musgrave, Wm. E., Manila, P. I.
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Neff, Robt. L., Joplin, Mo.
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Newth, C. H., Philomath, Ore.
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Nichols, Henry L., Sacramento, Cal.
Nittler, A. N., Davenport, Cal.
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Otis, L. J., Artesia, Cal.
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Palmer, Adelbert L., Logansport, Ind.
Palmer, Edwin O., Los Angeles.
Palmer, Ralph F., Mesa, Ariz.
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Paulson, David, Hinsdale, Ill.
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Peck, Geo. Wm., Sawtelle, Cal.
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Peelle, Frank A., Wilmington, O.
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Peterman, A. L., Parker, S. Dak.
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Pickel, E. B, Medford, Ore.
Pietrowicz, Stephen R., Chicago.
Pinniger, S. E. D., Tracy, Cal.
Platt, Jos. S., Port Huron, Mich.
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Pomeroy, Geo. T., Oakland, Cal.
Porter, David R., Kansas City, Mo.
Porter, H. L., Seneca, Mo.
Pottenger, Francis, M., Monrovia, Cal.
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Putnam, Harrison A., Inglewood, Cal.
Putney, James, Charleston, W. Va.
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Ragland, Dallas C., Los Angeles.
Ranchous, Walter E. M., Columbus, Ohio.
Reed, J. D., Covina, Cal.
Rehfeldt, Chas. S., St. Louis.
Reinemund, C. A., El Paso, Tex.
Remington, Lewis D., Monrovia, Cal.
Revelle, C. A., New Florence, Mo.
Rice, Chas., Smithland, Iowa.
Richards, Chas. M., San Jose, Cal.
Richards, Lloyd H., Gila Bend, Ariz.
Richards, Raymond G., Saint David's, Ill.
Richter, C. M., San Francisco.
Richter, Louise May, Los Angeles.
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Roberts, Thos. E., Oak Park, Chicago.
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Roblee, W. W., Riverside, Cal.
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Rosenberg, F. J., Lexington, Neb.
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Rothenburg, Jacob C., Springfield, Minn.
Rothschild, Max, San Francisco.
Royer, D. F., Orange, Cal.
Ruble, Wells A., Loma Linda, Cal.
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Sabichi, Geo. C., Bakersfield, Cal.
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Sanderson, A. J., Berkley, Cal.
Sapp, Clinton E., South Omaha, Neb.
Satterlee, Geo. R., New York.
Schermann, Albert H., Flagstaff, Ariz.
Schmitt, L. S., San Francisco.
Schottler, G. J., Dexter, Minn.
Schulz, F. M., Wauwatosa, Wis.
Schwuchow, Walter B., Los Angeles.
Scott, Alfred J., Los Angeles.
Scott, Florence, Belvedere, Cal.
Scroggs, Gus. A., Los Angeles.
Seabolt, Gertrude C., Los Angeles.
Seaman, E. D., Los Angeles.
Selling, Nathalie, San Francisco.
Shattuck, G. S., Los Angeles.
Sheafe, E. A., Ottumwa, Iowa.
Sheets, Vaughn L., Chicago.
Sheldon, Daniel W., Perris, Cal.
Sheldon, Chas. S., Madison, Wis.
Sheldon, Stuart H., Portland, Ore.
Shelley, Jacob F., Elmdale, Kan.
Shelton, R. O., San Diego, Cal.
Shepard, Chas. A., Needles, Cal.
Sheppard, Christopher, Ontario, Cal.
Sherer, Wm. W., Los Angeles.
Sherman, R. H., Dexter, Iowa.
Shields, Fred R., Victoria, Tex.
Shiels, J. Wilson, San Francisco.
Silcox, J. Evart D., Rio, Ill.
Sisler, G. W., Water Valley, Miss.
Smalley, C. A., Los Angeles, Cal.
Smiley, T. B., Mt. Vernon, S. Dak.
Smith, C. J., Pendleton, Ore.
Smith, Dudley, Oakland, Cal.
Smith, E. Franklin, New York.
Smith, Harvey, Los Angeles.
Smith, Robert D., Yerington, Nev.
Smith, S. F., Bakersfield, Cal.
Southwick, F. A., Stevens Point, Wis.
Speicher, A. F., Los Angeles.
Speirs, G. O., Ellinwood, Kan.
Spencer, J. F., Gardena, Cal.
Spicer, O. W., Colorado Springs, Colo.
Sprouance, Henry R., Wilmington, Del.
Squier, Angelo O., Springfield, Mass.
Stallings, F. L., Lindsay, Cal.
Starbuck, A. B., Dallas, Ore.
Stedman, Thos. L., New York.
Steed, Pinckney M., Deming, N. Mex.
Stehman, Henry B., Pasadena, Cal.
Stephens, Philip, Caliente, Nev.
Stewart, W. Blair, Atlantic City, N. J.
Stickney, V. H., Dickinson, N. Dak.
Stockwell, G. N., Ventura, Cal.
Stoltenberg, W. P., Kinsley, Kan.
Stone, Henry H., Phoenix, Ariz.
Strickler, Stephen L., Boggstown, Ind.
Sunde, P. Harold, Los Angeles.
Sutherland, Robert T., Oakland, Cal.
Swearingen, A. W., La Jolla, Cal.
Swearingen, S. P., Pasadena, Cal.
Sweet, Earl, Los Angeles, Cal.
Swoboda, Louis, Omaha, Neb.
Sylvester, Florence M., Oakland, Cal.
Taltavall, Wm. A., Redlands, Cal.
Taubles, G. H., San Francisco, Cal.
Taylor, A. G., Grand Junction, Colo.
Taylor, Lewis C., Springfield, Ill.
Thayer, L. H., Buckeye, Ariz.
Tholen, Emil F., Glendale, Cal.
Thomas, David O., Minneapolis, Minn.
Thomas, Frank W., Claremont, Cal.
Thomas, Roy E., Phoenix, Ariz.
Thompson, Chas. W., Meadville, Pa.
Thompson, Thos. L., Indianapolis, Ind.
Thompson, Wesley, Huntington Park, Cal.
Thomson, J. A., Onawa, Iowa.
Thornburg, M. W., Redfield, Iowa.
Thornton, Andrew J., San Diego, Cal.
Thornton, David D., Los Angeles.
Thornton, Wm. H., Buffalo.
Tice, Frederick, Chicago.
Tileston, Wilder, New Haven, Conn.
Tilton, A. L., Kingman, Ariz.
Tolson, F. R., Lafayette, La.
Tompkins, W. W., Charleston, W. Va.
Topping, Frank P., San Francisco.
Trew, Niel C., Los Angeles.
Trimmer, E. Luther, Los Angeles.
Trueblood, Chas., Monte Vista, Colo.
Trueworthy, J. W., Los Angeles.
Twitchell, Edward W., Sacramento, Cal.
Tyler, R. D., Guthrie, Ky.
Tyler, Hoell, Redlands, Cal.
Urmston, Wm. B., El Paso, Tex.
Utley, Jay H., Los Angeles.
Vadakin, J. H., Bethany, Ill.
Valle, C. C., San Diego, Cal.
Van Meter, S. Y., Los Angeles.
Veazey, W. M., Avilla, Ind.
Van Zwaluwenburg, Jas. G., Ann Arbor, Mich.
Violet, J. C., Chicago.
Visscher, Louis G., Los Angeles.
Voorsanger, Wm. C., San Francisco.
Waggoner, E. L., Los Angeles.
Wagner, L. H., Cleveland, Ohio.
Wallace, Agnes McKie, Prescott, Ariz.
Walrath, Geo. R., Los Angeles.
Warden, Carl C., Los Angeles.
Warner, H. M., Hempstead, N. Y.
Warren, G. A., Black Rock, Ark.
Waterhouse, A. H., Kelea Kanai, H. I.
Waterman, C. O., Long Beach, Cal.
Weaver, Benj. F., Visalia, Cal.

Webster, I. D., San Diego, Cal.
von Wedelstaedt, Bismarck, Chicago.
Weems, Marcus, A., Columbia, Tex.
Weid, Francis A., Pasadena, Cal.
Welch, H. E., Youngstown, Ohio.
Welch, J. Franklin, Salisbury, Mo.
Wellman, W. D., Jamestown, N. Y.
Wells, Edward F., Chicago.
Wells, Samuel J., Pleasanton, Cal.
Wells, W. B., Riverside, Cal.
Wenzlick, Wm., Los Angeles.
Wernigk, R., Los Angeles.
West, Pearl Caleb, Bickleton, Wash.
Wheeler, Frank D., Detroit.
White, J. Francis, Auburn, Cal.
White, Percival G., Los Angeles.
White, Toler R., Valentine, Ariz.
Whitelock, Thos. S., San Diego, Cal.
Whitlock, R. G., Los Angeles.
Wilbur, Roy L., San Francisco.
Wiegand, Wm. E., Baltimore, Md.
Wilkins, David R., Pocahontas, Ill.
Wilkinson, Wm. W., Phoenix, Ariz.
Williams, A. O., Ottumwa, Iowa.
Williams, C. C., Pasadena, Cal.
Williams, E. K., Arkadelphia, Ark.
Williams, Wm., Pittsburg, Kan.
Wilson, Witt C., Ironton, Ohio.
Wilson, Dunning S., Louisville, Ky.
Wilson, H. P., Whittier, Cal.
Wilson, Thos. J., Pomona, Cal.
Winters, Walter P., San Diego, Cal.
Wolfsen, L. H., Merced, Cal.
Wood, Clifford H., Glendora, Cal.
Wootton, Wm. T., Hot Springs, Ark.
Worley, H. F., Oakland, Cal.
Wright, Emily, Rock Island, Ill.
Wright, Thompson B., Pasadena, Cal.
Wylder, M. K., Albuquerque, N. Mex.
Yates, H. N., Pacific Grove, Cal.
Yates, W. N., Fayetteville, Ark.
Zeigler, Willis T., Canton, Ill.
Zelinsky, Frank, Los Angeles.
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Zook, A. J., Adair, Iowa.

Preventive Medicine and Public Health

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Ames, Howard E., San Francisco.
Angwin, W. A., U. S. S. California, U. S. Navy.
Aud, C. Z., Cecilian, Ky.
Avery, Ralph W., Oxnard, Cal.
Bancroft, Irving R., Los Angeles.
Barnes, Carl L., Chicago.
Barnes, Henry J., Boston.
Beatty, T. B., Salt Lake, Utah.
Bennett, Laura B., Los Angeles.
Betts, Abbie J. Mace-, Sierra Madre, Cal.
Blue, Rupert, San Francisco.
Bracken, H. M., Minneapolis, Minn.
Bridge, Norman, Los Angeles, Cal.
Brockway, Porter B., Toledo, O.
Brooks, S. D., Los Angeles.
Browning, Chas. C., South Pasadena, Cal.
Calder, Jas. S., Los Angeles, Cal.
Calvin, Warren D., Ft. Wayne, Ind.
Carey, Victor F., New Orleans, La.
Clarke, Louise Harvey, Riverside, Cal.
Coffman, Frank R., Denver, Colo.
Coon, J. W., Wales, Wis.
Crumbine, S. J., Topeka, Kan.
Crumpton, H. John, Piedmont, Cal.
Dannenbaum, Sidney Ray, San Francisco.
Davis, Wm. H., Denver, Colo.
Day, Mary Gage, Kingston-on-Hudson, New York.
Decker, Chas. W., Los Angeles.
Dierking, A. W., Oolitic, Ind.
Dowling, Oscar, Shreveport, La.
Durfee, R. B., Los Angeles, Cal.
Eaton, Geo. L., San Francisco.
Edwards, Samuel G., Los Angeles.
Evans, Wm. A., Chicago.
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Foster, N. K., Oakland, Cal.
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Gillett, O. R., Colorado Springs, Colo.
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Gorgas, W. C., Ancon, C. Z.
Green, Frederick R., Chicago.
Green, Frances M., Cambridge, Mass.
Griffin, Chas. F., San Francisco.
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Grubbs, Major Robt. B., Washington, D. C.
Guest, James W., Louisville, Ky.
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Heuel, Emil, New York.
Holden, G. Walter, Denver, Colo.
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Hull, Theo. Y., San Antonio, Tex.
Hurty, J. N., Indianapolis, Ind.
Hyde, George E., Rexburg, Ida.
Kean, Lt.-Col. J. R., Washington, D. C.
Kerr, J. W., Washington, D. C.
Knox, S. Adolphus, New York.
Lynch, Charles, Washington, D. C.
Mahr, J. C., Muskogee, Okla.
Mallery, John H., La Mesa, Cal.
Marton, George, Los Angeles.
McCormack, J. N., Bowling Green, Ky.
McCoy, Geo. W., San Francisco.
Montgomery, Liston H., Chicago.
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Norton, Oliver D., San Pedro, Cal
Olmsted, R. C., Pasadena, Cal.
Orme, Henry L., Los Angeles.
Palmer, Chas. T., Los Angeles.
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Parkinson, Jas. H., Sacramento, Cal.
Parks, J. A., San Diego, Cal.
Paroni, Romilda, Berkeley, Cal.
Paul, Samuel G., Salt Lake, Utah.
Peers, Robert A., Colfax, Cal.
Probst, C. C., Columbus, Ohio.
Rafferty, Ogden, Oxnard, Cal.
Rainey, Geo. S., Salem, Ill.
Ravenel, Mazyck P., Madison, Wis.
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Read, Albert J., Battle Creek, Mich.
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Richardson, Mark W., Boston.
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Sleeper, Karl R., Riverside, Cal.
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Taylor, Holman, Ft. Worth, Tex.
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Tuttle, Thos. D., Helena, Mont.
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Wehrly, John, Santa Ana, Cal.
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Stomatology

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Chappel, H. G., Oakland, Cal.
Fulsom, Harry A., Los Angeles.
Jordon, M. Evangeline, Los Angeles.
Marshall, John S., Berkeley, Cal.
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Wherry, Styles W., Ogden, Utah.
Wooley, E. W., Winona, Minn.

Dermatology

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Emerson, Henry K., Los Angeles.
Evans, J. G., New Hartford, Ia.
Fox, Howard, New York.
Gnichtel, A. L., New York.
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Higbee, Annie, Clovis, Cal.
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Malaby, Z. T., Pasadena, Cal.
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Reiche, Cecilia, Los Angeles.
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Soiland, Albert, Los Angeles.
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Ophthalmology

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Cameron, Howard McD., Sacramento, Cal.
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Carpenter, E. R., El Paso, Tex.
Carroll, James J., Baltimore.
Chamberlin, J. W., St. Paul, Minn.
Church, Benj. F., Redlands, Cal.
Cloud, M. Morgan, Los Angeles.
Cochrane, Wm. J., Lake City, Minn.
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Corr, John T., Kenosha, Wis.
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Davisson, A. W., Corpus Christi, Tex.
Dobson, Geo. H., Santa Ana, Cal.
Dodd, Oscar, Chicago.
Donovan, Jno. A., Butte, Mont.
Dorsey, J. G., Wichita, Kan.
Dudley, W. H., Los Angeles, Cal.
Duncan, A. M., Los Angeles, Cal.
Ellis, H. Bert, Los Angeles.
Fairchild, Chester H., Woodland, Cal.
Findley, M. C., Grant's Pass, Ore.
Franklin, Walter S., San Francisco.
Gosney, C. W., Kansas City, Mo.
Graham, Richard W., Los Angeles.
Gray, J. B., El Paso, Tex.
Graves, W. H., Pittsburg, Kan.
Greene, D. W., Dayton, Ohio.
Gsell, J. F., Wichita, Kan.
Hall, Alfred M., Chicago.
Hamlin, Francis A., Bakersfield, Cal.
Harris, Ross A., Los Angeles.
Hulen, Vard H., Houston, Tex.
Jackson, Edward, Denver, Colo.
Johnston, Wilson, Spokane, Wash.
Jones, Emmett L., Cumberland, Md.
Jordan, P. A., San Jose, Cal.
Kenney, W. L., St. Joseph, Mo.
Kiefer, Hugo A., Los Angeles.
Kirk, A. W., San Francisco.
Lambert, Walter E., New York.
Ledbetter, S. L., Birmingham, Ala.
Lewis, F. Park, Buffalo.
Lewis, J. Perry, San Diego, Cal.
Libby, Arthur A., Los Angeles.
Liverman, J. R., San Bernardino, Cal.
McLaughlin, Wm. E., Los Angeles.
Macleish, Archibald L., Los Angeles.
Magee, R. S., Topeka, Kan.
March, Clara A., Buffalo.
Mans, Leon Wallace, Los Angeles.
Martin, Ancil, Phoenix, Ariz.
Maser, G. W., Parsons, Kan.
May, Jas. W., Kansas City, Kan.
McBeath, Harry F., Milwaukee, Wis.
McCoy, Thomas J., Los Angeles.
McDavitt, Thos., St. Paul, Minn.
McGavren, H. S., San Francisco.
McIntire, Charles, Easton, Pa.
McLeod, Jas. H., Santa Rosa, Cal.
Miles, Henry S., Bridgeport, Conn.
Miller, Frank W., Los Angeles.
Miller, Robt. W., Los Angeles.
Mittendorf, Wm. F., New York.
Moore, C. C., Philadelphia.
Nagel, C. S. G., San Francisco.
Newton, J. C., Exira, Iowa.
Osterling, H. E., Wheeling, W. Va.
Pendleton, F. M., Quincy, Ill.
Pitts, Barton, St. Joseph, Mo.
Plath, O. E., Phoenix, Ariz.
Plumb, J. N., York, Neb.
Powell, Barton J., Stockton, Cal.
Reed, Jas. R., Pasadena, Cal.
Reynolds, Ralph W., Pasadena, Cal.
Risley, J. Norman, Philadelphia.
Rogers, A. C., Los Angeles.
Rogers, F. T., Providence, R. I.
Roberts, W. H., Pasadena, Cal.
Rudgers, Denton W., Yankton, S. Dak.
Savage, G. C., Nashville, Tenn.
Schramm, George V., Salt Lake City, Utah.
Shaul, Jas. Wm., Santa Ana, Cal.
Shoemaker, J. F., St. Louis, Mo.
Shope, Samuel Z., Harrisburg, Pa.
Stauffer, Fred, Salt Lake, Utah.
Steinfeld, A. L., Toledo, Ohio.
Stevenson, Mark D., Akron, Ohio.
Stilwill, Hiram R., Denver, Colo.
Stork, H. H., El Paso, Tex.
Sullivan, M., Adrian, Minn.
Thomas, Jerome B., Santa Cruz, Cal.
Thomson, Edgar S., New York.
Thorne, J. P., Janesville, Wis.
Thorpe, Lewis A., Los Angeles.
Tiffany, Flavel B., Kansas City, Mo.
Toms, S. W. S., Nyack, N. Y.
Trowbridge, D. H., Fresno, Cal.
Walker, B. F., Stockton, Cal.
Walker, J. R., Fresno, Cal.
Ward, M. Wylie, Woodland, Cal.
Weeks, John E., New York.
Wescott, Cassius D., Chicago.
Wherry, J. W., Los Gatos, Cal.
Woodruff, Harry W., Joliet, Ill.
Woods, Hiram, Baltimore.
Workman, R. A., Woodward, Okla.
Zentmayer, Wm., Philadelphia.

Laryngology and Otology

Adams, John E., Oakland, Cal.
Anderson, E. B., Chattanooga, Tenn.
Andrews, A. H., Chicago.
Andrews, B. F., Chicago.
Barnhill, John F., Indianapolis, Ind.
Berkheimer, Geo. C., Windber, Pa.
Blodgett, T. D., Tulare, Cal.
Brewer, Edw. P., Norwich, Conn.
Briggs, Wm. E., Sacramento, Cal.
Brown, J. Mackenzie, Los Angeles.
Bryan, Joseph H., Washington, D. C.
Bullock, Earl S., Silver City, N. Mex.
Burke, Chas. L., Kansas City, Mo.
Burkelman, Arnold, Los Angeles.
Cave, Thos. R., Manhattan, Kan.
Clevenger, Wm. F., Indianapolis, Ind.
Cook, John W., Pendleton, Ind.

Corwin, Theodore W., Newark, N. J.
Cox, W. C., Everett, Wash.
Cunningham, Henry M., Marquette, Mich.
Davies, Bertram C., Monrovia, Cal.
Davis, Sheldon F., Pomona, Cal.
Deane, Louis C., San Francisco.
Dennis, F. L., Colorado Springs, Colo.
Dilworth, Wm. D., Pasadena, Cal.
Eagleton, Wells P., Newark, N. J.
Emerson, Francis P., Boston.
Fleming, E. W., Los Angeles.
Fletcher, John R., Chicago.
Fredrich, Marcus W., San Francisco.
Gofferel, C. C., Wymore, Neb.
Graham, Harrington B., San Francisco.
Hastings, Hill, Los Angeles.
Hastings, Seman W., Los Angeles.
Hastreeter, Rolland F., Los Angeles.
Heffner, Oliver C., Pottstown, Pa.
Horn, Henry, San Francisco.
Hosmer, James E., Ashland, Ore.
Hull, Leonard C., Hollister, Cal.
Huntoon, A. F., Los Angeles.
Kelsey, Arthur L., Los Angeles.
Kistner, Frank B., Portland, Ore.
Kneedler, G. C., Pittsburg.
Knotts, Roy R., Yuma, Ariz.
Kress, George H., Los Angeles.
Lucchetti, Victor F., San Francisco.
Lund, Geo. J., Los Angeles.
Lyle, W. C., Augusta, Ga.
MacDonald, Everett A., Redlands, Cal.
Magee, A. Claude, San Diego, Cal.
Malsbary, Geo. E., Los Angeles.
McCoy, Geo. W., Los Angeles.
McNaught, Harvard Y., Los Angeles.
Meinhardt, Maximilian, Chicago.
Mitchell, George W., Baltimore.
Molgaard, Jens, San Francisco.
Montgomery, C. H., Los Angeles.
Murphy, C. W., Los Angeles.
Murphy, W. W., Los Angeles.
Murray, W. P., Caliente, Nev.
Murray, Wm. R., Minneapolis, Minn.
Musser, Francis R., Oakland, Cal.
Oldham, John, Los Angeles.
Oldham, J. C., Wichita, Kan
Oren, S. A., Lewistown, Ill.
Otto, C. J., Allentown, Pa.
Owen, F. S., Omaha, Neb.
Pattee, James J., Pueblo, Colo.
Pound, John C., Baltimore.
Pounds, T. C., San Diego, Cal.
Pratt, F. J., Minneapolis, Minn.
Pratt, John A., Aurora, Ill.
Pyfer, Howard F., Norristown, Pa.
Robinson, Wm. K., Los Angeles.
Rogers, F. L., Long Beach, Cal.
Roy, Dunbar, Atlanta, Ga.
Sauer, W. E., St. Louis, Mo.
Schell, Walker, Terre Haute, Ind.
Schoonmaker, Perry, New York.
Selfridge, Grant, San Francisco.
Sewall, Edw. C., San Francisco.
Shallcross, W. G., Pittsburg, Pa.
Sheckle, Charles, Los Angeles.
Shore, F. E. V., Des Moines, Ia.
Shurly, Burt R., Detroit.
Smith, A. S. J., San Jose, Cal.
Smith, Beverly W., Franklin, La.
Smith, F. Conger, New York.
Spohn, George W., Elkhart, Ind.
Stephenson, C. C., Los Angeles.
Sweet, Robt. B., Long Beach, Cal.
Szymanski, Julius, Chicago.
Taylor, Chas. E., San Francisco.
Tefft, Jr., Benj. F., Anthony, R. I.
Vanderhoof, Don A., Rockford, Ill.
Voorhees, Sherman, Elmira, N. Y.
Walker, A. W., Riverside, Cal.
Warfield, Clarence, San Antonio, Tex.
Welty, Cullen F., San Francisco.
Williams, Thomas A., Pasadena, Cal.
Zuill, W. L., Pasadena, Cal.

Pathology and Physiology

Black, Stanley P., Pasadena, Cal.
Breed, Lorena M., Pomona, Cal.
Cannon, Walter B., Boston.
Councilman, W. T., Boston.
Darling, S. T., Canal Zone.
Dunlap, W. O., Sedalia, Mo.
Foster, Harry E., Oakland, Cal.
Hall, Frank J., Kansas City, Mo.
Henderson, Yandell, New Haven, Conn.
Houghton, E. M., Detroit.
Hudson, Jessie B., Iowa City, Ia.
Johnstone, O. P., Reno, Nev.
Jones, A. Halden, Los Angeles.
Karsner, Howard T., Philadelphia.
Leonard, Ethel, Los Angeles.
Leary, Timothy, Boston.
Le Count, E. R., Chicago.
Litterer, Wm., Nashville, Tenn.
Loeb, Leo, St. Louis.
McClintock, John T., Iowa City, Iowa.
McDonald, Hugh J., Butte, Mont.
Mills, Harlan P., St. Joseph, Mo.
Oliver, Harry R., San Francisco.
Ophuls, William, San Francisco.
Orndoff, B. H., Chicago.
Pottenger, Jos. E., Monrovia, Cal.
Rusk, G. V., Berkeley, Cal.
Sidebotham, Harold, Santa Barbara, Cal.
Tebbitt, Robt. L., Los Angeles.
Thieme, Derk. A., Los Angeles.
Thompson, H. A., San Diego, Cal.
Thompson, Ralph L., St. Louis.
Wagner, Andrew F., Pasadena, Cal.
Ward, Henry B., Urbana, Ill.
Watkins, W. Warner, Phoenix, Ariz.
Welch, Wm. H., Baltimore.
Wells, H. Gideon, Chicago.
Wicherski, Otto G., San Francisco, Cal.
Wilson, L. B., Rochester, Minn.

Diseases of Children

Abt, Isaac A., Chicago.
Acker, Geo. N., Washington, D. C.
Alexander, Wm. G., Evanston, Ill.
Allgood, J. E., Liberty, S. C.
Allen, Frances M., San Diego, Cal.
Allen, Frank W., Chicago.
Andrews, Lelia E., Oklahoma City, Okla.
Bledsoe, Martha J., Chickasha, Okla.
Blair, B. H., Lebanon, Ohio.
Bogert, Frank V., Schenectady, N. Y.
Butler, W. J., Chicago.
Butterworth, W. W., New Orleans, La.
Chancellor, Philip S., Pasadena, Cal.
Clark, Jennie B., Chicago.
Cokenower, Jas. W., Des Moines, Iowa.
Colliver, John A., Los Angeles.
Cotton, Alfred C., Chicago.
DeBuys, L. R., New Orleans, La.
Dodsworth, Robt. M., Azusa, Cal.
Dornbush, Bertha E., Pittsburg, Pa.
Dranga, Muriel, San Diego, Cal.
Eager, Katharine L., Salt Lake City, Utah.
Eakin, Byron W., Carlisle, W. Va.
Earle, C. A., Des Plaines, Ill.
Follansbee, Elizabeth A., Los Angeles.
Foss, John W., Phoenix, Ariz
Francis, W. V. C., Los Angeles.
Gates, Sterling J., Franklin, La.
Gengenbach, F. P., Denver, Colo.
Graves, Robert E., Chicago.
Hamill, S. McC, Philadelphia, Pa.
Hanson, D. S., Cleveland, Ohio.
Hare, Jessie D., Fresno, Cal.
Hesser, George T., Folsom, Cal.
Hines, Edgar A., Seneca, S. C.
Holmes, Arthur D., Detroit.
Hollopeter, Wm. C., Philadelphia.
Hopkins, Caroline B., Chicago.
Horstmann, Elsa H., Los Angeles.
Iglick, Samuel, Orland, Cal.
Johnson, P. V. K., Los Angeles.
Johnstone, Mary M. S., Chicago.
Jones, R. P., Clinton, La.
Lischner, Hyman, San Diego, Cal.
Litsinger, Geo. H., Riley, Kan.
Lowman, C. L., Los Angeles.
Martin, Marshall L., Los Angeles.
Maurits, Reuben, Grand Rapids, Mich.
McCleave, T. C., Berkeley, Cal.
McGavin, Jessie M., Portland, Ore.
McNeil, H. G., Los Angeles.
McVea, Chas., Baton Rouge, La.
Michael, May, Chicago.
Miller, Chas. F., Los Angeles.
Mohun, C. C., San Francisco.
Moulton, D. H., Chico, Cal.
Neff, Frank C., Kansas City, Mo.
O'Connor, H. Kathleen, Omaha, Neb.
Powell, C. S., Benson, Ariz.
Powell, Nettie B., Marion, Ind.
Porter, Langley, San Francisco.
Putnam, Catherine E., St. Paul, Minn.
Richter, Arthur J., Chicago.
Royster, L. T., Norfolk, Va.
Rulison, L. B., Watervliet, N. Y.
Ryan, Granville N., Des Moines, Iowa.
Scott, Jr., Alfred J., Los Angeles.
Sedgwick, J. P., Minneapolis, Minn.
Siebe, Elizabeth B., San Francisco.
Simonds, Paul E., Los Angeles.
Southworth, Thos. S., New York.
Strang, Walter W., New York.
Sundin, P. O., Los Angeles.
Tate, Louis N., Brimfield, Ill.
Tenney, C. F., Toledo, Ohio.
Thomas, F. P., Hopkinsville, Ky.
Tubbs, R. B., Council Bluffs, Ia.
Vernon, S. Geraldine, Madison, Wis.
Violett, Chas. C., Garden Grove, Cal.
Woolery, Perry, Heltonville, Ind.
Wright, Louisa V., Camas, Wash.
Yost, Francis O., Los Angeles.

Pharmacology and Therapeutics

Abbott, W. C., Ravenswood, Ill.
Bulkley, L. Duncan, New York.
Calvin, Jessie Carrithers, Fort Wayne, Ind.
Clare, Montrose W., Eureka Springs, Ark.
Cook, C. W., Los Angeles, Cal.
Crabtree, Hezediah T., Salinas, Cal.
Davis, Theodore G., Los Angeles, Cal.
Eliot, Gustavus, New Haven, Conn.
Endicott, E. E., Jackson, Cal.
Flinn, John W., Prescott, Ariz.
French, J. M., Milford, Mass.
Fussell, M. Howard, Philadelphia.
Hirschfelder, J. O., San Francisco, Cal.
Holland, James W., Philadelphia.
Hunt, Reid, Washington, D. C.
Jones, Philip M., San Francisco.
Kerr, Wm. W., San Francisco.
Kruell, Fred. J., Los Angeles.
Litchfield, Lawrence, Pittsburg.
McCormack, Arthur T., Bowling Green, Ky.
Osborne, Oliver T., New Haven, Conn.
Pope, Saxton T., Watsonville, Cal.
Porter, Sidney D., Louisiana, La.
Reed, Boardman, Alhambra, Cal.
Schafer, Augustus F., Bakersfield, Cal.
Schmoll, Emile, San Francisco, Cal.
Simmons, George H., Chicago.
Snow, Wm. B., New York.
Sommerkamp, R. F., Philadelphia.
Stewart, Francis E., Philadelphia.
Wheatley Frank G., North Abington, Mass.

Nervous and Mental Diseases

Applegate, C. F., Mt. Pleasant, Iowa.
Avey, Oliver H., Payette, Ida.
Allen, Chas. L., Los Angeles.
Bernig, Robt. E., San Francisco.
Birtch, Fayette W., San Francisco.
Bishop, T. W., Los Angeles, Cal.
Booth, David S., St. Louis, Mo.
Boyd, J. F., Santa Ana, Cal.
Bradburn, B. P., Lincoln, Ill.
Brainerd, H. G., Los Angeles.
Burnett, S. Grover, Kansas City, Mo.
Byrd, W. G., Isola, Miss.
Caples, Byron M., Waukesha, Wis.
Case, Calvin L., Oakland, Cal.
Clark, Wm. S., Los Angeles.
Coburn, E. S., Plumstead Ville, Pa.
Colwell, N. P., Chicago
Corey, Francis E., Alhambra, Cal.
Craig, N. S., Jennings, La.
Crosby, Daniel, Oakland, Cal.
Cross, William W., Fresno, Cal.
Crothers, T. D., Hartford, Conn.
Dawson, William J. G., Eldridge (Sonoma Co.), Cal.
Deacon, George, Pasadena, Cal.
Dold, William Elliott, New York.
Duncan, Charles G., Socorro, N. M.
English, W. F., Saginaw, Mich.
Ewing, W. Brown, Salt Lake City.
Eyman, Henry C., Massillon, O.
Fackler, L. H., York, Pa.
Field, A. G., Des Moines, Iowa.
Fisher, James T., Los Angeles.
Franklin, Charles M., Baltimore.
Fundenberg, Geo. B., Pasadena, Cal.
Gordon, Frank H., Los Angeles.
Graves, William W., St. Louis.
Grinnell, Fordyce, Pasadena, Cal.
Gundry, Richard F., Catonsville, Md.
Hanlon, E. W., Los Angeles.
Harmon, F. W., Cincinnati.
Hazen, Charles M., Bon Air, Va.
Hedgpeth, W. R., Paso Robles, Cal.
Henschel, Louis K., Greystone Park, N. J.
Hoishoft, A. W., Stockton, Cal.
Howard, Burt F., Alta, Cal.
Howard, Edward, San Diego, Cal.
Jackson, Josephine A., Pasadena, Cal.
Jones, H. L. Jackson, Tenn.
Jones, William Alexander, Minneapolis.
Kaufman, Albert S., New Kensington, Pa.
Kearney, Elizabeth F., Los Angeles.
Keep, Frederica A., Los Angeles.
Kistler, S. L., Los Angeles.
Langdon, Samuel W. H., Stockton, Cal.
Lazaro, A., Washington, Pa.
Lewis, Joseph M., Cleveland.
Lilley, W. E., Merced, Cal.
Macfarlane, R. F., Astoria, N. Y. City.
Marner, G. P., Marion, Kan.
McCafferty, Emil L., Mt. Vernon, Ala.
McCann, Daniel B., Los Angeles.
McBride, Jas. H., Pasadena, Cal.
McClenahan, H. C., San Francisco.
McNamara, T. M., Bakersfield, Cal.
Molecn, George A., Denver.
Moody, G. H., San Antonio, Tex.
Moore, Ross, Los Angeles.
Moyer, Harold N., Chicago.
Nelson, J. A, Wayne, Okla.
Oettinger, Bernard, Denver.
Orbison, Thomas J., Los Angeles.
Parsegan, J. H, San Francisco.
Patterson, Louise, Vineland, N. J.
Pettey, George E., Memphis, Tenn.
Podstata, V. H., Chicago.
Pratt, A. H., Oakland, Cal.
Ritter, John, Chicago.
Robertson, John W., Livermore, Cal.
Robinson, G. Wilse, Kansas City, Mo.
Scanland, John M., Warm Springs, Mont.
Schmitz, John, Los Angeles.
Shank, G. A., Huntington Beach, Cal.
Sharpe, Anne McFarland, Jacksonville, Ill.
Sheppard, W. W., Chicago.
Sights, H. P., Paducah, Ky.
Smith, Robert Percy, Seattle, Wash.
Smith, Stephen, Los Angeles.
Smyth, Margaret Hamilton, Stockton, Cal.
Talboy, William R., Newcastle, Neb.
Taylor, Thomas F., Tuskegee, Ala.
Teubner, Charles, Oxnard, Cal.
Thompson, G. W., Winamac, Ind.
Voldeng, M. N., Cherokee, Iowa.
Wickett, W. Harold, Fullerton, Cal.
Wickland, Carl A., Chicago.
Willson, S. C., Anderson, Ind.
Woodson, C. B., St. Joseph, Mo.
Work, Hubert, Pueblo, Colo.

Miscellaneous

The following failed to indicate preference for any section, or marked more than one on the registration card.

Alvarez, Luis F., Los Angeles.
Armstrong, Maurice M., Los Angeles.
Baer, Adolf B., San Francisco.
Bagg, Charles P., Surgeon, U. S. N., Los Angeles.
Barnes, S. M., Santa Ana, Cal.
Barr, W. T., Fresno, Cal.
Bicknell, F. T., Los Angeles.
Bonynge, Charles W., Los Angeles.
Brophy, Truman W., Chicago.
Brown, Archibald R., San Dimas, Cal.
Brown, F. Earl, Los Angeles.
Brown, George V. I., Milwaukee, Wis.
Brown, N. N., Bakersfield, Cal.
Buckley, Emma, San Francisco.
Byron, R. L., Los Angeles.
Clark, Jonas, San Jose, Cal.
Clark, William D., San Francisco.
Coulter, Herbert M., South Pasadena, Cal.
Cox, H. M., San Luis Obispo, Cal.
Delchmiller, Conrad, Los Angeles.
Dickson, C. S., Riverside, Cal.
Dodge, William, Los Angeles.
Dwight, Henry L., New Bedford, Mass.
Eshleman, L. H., Marion, Ind.
Evans, J. H., Highland, Cal.
Fisher, Edward D., New York.
Forline, Hamilton, Redlands, Cal.
Harris, Philander A., Paterson, N. J.
Hilliard, Carlos G., Redlands, Cal.
Hoffman, L. H., San Francisco.
Hornsby, John A., Chicago.
Howe, R. C., Colton, Cal.
Hulbert, Robert G., San Diego, Cal.
Hull, Frank E., Los Angeles.
Hutchinson, George A., Los Angeles.
Jenkins, J. E., Los Angeles.
Jenkins, J. F. T., Los Angeles.
Kiger, W. H., Los Angeles.
Knott, John M., Sioux City, Ia.
Kurtz, Joseph, Los Angeles.
Lafferty, Edward E., Bogalusa, La.
Lorenz, John W., Evansville, Ind.
Matson, Ray W., Portland, Ore.
McConnell, George G., Chicago.
Medlock, J. R., Santa Ana, Cal.
Minney, J. E., Los Angeles.
Mitchell, Henry, Asbury Park, N. J.
Molony, Martin, San Francisco.
Molony, William R., Los Angeles.
Montgomery, D. W., San Francisco.
Morrow, Howard, San Francisco.
Newcomb, W. K., Champaign, Ill.
Nichols, William V., Oceanside, Cal.
Nixon, Anne W., Pasadena, Cal.
Nutting, Floyd, Los Angeles.
Oakley, H. W., Porterville, Cal.
Parker, Ida B., Orange, Cal.
Pascoe, Elma R., Los Angeles.
Perry, W. F., Los Angeles.
Pinard, P. H. A., Jefferson, S. D.
Pinkston, A. R. W., Ft. Meade, S. Dak
Powers, L. M., Los Angeles.
Prentice, George L., Garden Grove, Cal.
Rossman, C. G., Hudson, N. Y.
Sample, John T., Baltimore.
Smith, A. M., Oakland, Cal.
Smith, Frederick J., San Diego, Cal.
Spitler, S. W., Wellington, Kan.
Stafford, O. R., Los Angeles.
Stivers, Charles Gaskill, Los Angeles.
Surryhne, B. F., Modesto, Cal.
Tape, G. W., Hot Lake, Ore.
Thackeray, W. T., Chicago.
Thompson, David, Denver.
Topham, Bertram E., Los Angeles.
Totman, D. M., Syracuse, N. Y.
Tower, A. M., Lodi, Cal.
Tracy, Frank M., San Marcos, Cal.
Ward, Henry B., Urbana, Ill.
Warner, Eugene R., Denver.
Webb, Gerald B., Colorado Springs, Colo.
Weber, Louis, Los Angeles.
White, C. M., Visalia, Cal.
Yale, A. E. W., Pigeon, Mich.
Young, G. B., Chicago.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE MEDICAL PROFESSION IN GERMANY

The United States Consul-General at Dresden has reported in the *Daily Consular and Trades Reports* an article in the *Deutsche Medizinische Wochenschrift*, giving a statistical review of the medical profession for 1910. According to this weekly, there are at present practicing in Germany 32,449 physicians or 5.01 doctors for every 10,000 of population, an increase of 480 over 1909. As the number of medical students has risen from 9,239 in 1909 to 11,125 in 1910, a still further increase in the number of physicians may be anticipated. The actual increase in practitioners is largely in the cities. Berlin has 12.32 physicians per 10,000; Wiesbaden, 22.6; Munich, 16.6, and Stuttgart, 9.7. The number of female doctors has risen from 55 in 1908 and 69 in 1909 to 102 in 1910, while the number of female medical students has increased from 371 to 512.

"A MAN WITH A MESSAGE"

The following editorial from a recent number of the *Houston* (Tex.) *Chronicle* indicates the effect produced on the community by Dr. McCormack's recent address in that city:

There have been no addresses delivered in Houston, in the judgment of the *Chronicle*, which were more needed and which contained more sound, sensible advice and instruction than those delivered by Dr. J. N. McCormack, organizer of the American Medical Association.

His address—or rather his plain, practical talk—at the Young Men's Christian Association Sunday evening—strong by reason of its marvelous clearness and simplicity—was such a message as needs to be told to youth and young and old-manhood alike. Dr. McCormack could make the same talk before any woman's society or any social club or high school without giving offense to any right-thinking man or woman.

He makes two statements that deserve to be driven into the minds and consciences of all the people. One was that the idea that we can keep our children pure by keeping them ignorant is wholly false; and the other was that, while all men recognize the profound importance and the necessity of purity in women, the idea is widespread that the same standard of continence and purity in men is at once unimportant and impossible. This contention he justly denounced as false and vicious.

He dealt with the question as one which relates more to the future than to the present. He spoke in recognition of the divine declaration that "I will visit the sins of the father upon the children, even unto the third and fourth generation," and asserted that the truth of that deliverance made from Sinai was proved every day in the experience of reputable physicians. The evils of immorality were made manifest in defective children, in diseases transmitted, in blindness and impure blood, and, speaking as a surgeon of long experience, he said that the alarming proportion of 60 per cent. of the surgical operations on women were made necessary by and could be traced to impurity on the part of men.

There is no question in which the whole body of society is as much interested as it is in the health of the people, and, as Dr. McCormack said, it is not the large, visible, easily reached enemies of health which are most to be dreaded, but the apparently insignificant ones, such as mosquitoes, flies and fleas. The three young physicians who gave up their lives to prove that the mosquito was the agency which transmitted yellow fever lie unhonored in unmarked graves because we build monuments to those who destroy human life, not to those who save it; yet these men made clear that which stamped out one of the scourges of humanity.

Flies are the chief agency for spreading the germs of typhoid fever, and the bubonic plague, which carries terror to the hearts of men, is spread by fleas, and the fleas are carried from place to place by rats.

The medical association of the United States is conferring incalculable benefit on the whole people by making possible such a work as Dr. McCormack is doing.

It would be worth a million dollars to Houston if the dangers he points out could be appreciated by all her people, and the lessons he teaches and the instructions he gives were followed by them. The world has slept long, but is awakening now, and the campaign for higher morals and better health will never halt.

A NEW TUBERCULOSIS DIRECTORY

The National Association for the Study and Prevention of Tuberculosis has issued a new edition[1] of the "Tuberculosis Directory," which shows that over 600 cities and towns of the United States and about 100 in Canada are at present making active efforts for the suppression of consumption, and that on April 1, 1911 there were nearly 1,500 different agencies at work for the reduction of tuberculosis, an increase of nearly 700 per cent. in the last seven years. The directory gives 421 tuberculosis sanatoriums, hospitals and day camps, 511 associations and committees for the prevention of tuberculosis, 342 special dispensaries, 68 open-air schools, 98 hospitals for the insane and penitentiaries which make special provision for tuberculous inmates. The book also contains a summary of the antituberculosis legislation in every state as well as the municipal ordinances of about 250 cities. This book therefore contains a complete synopsis of the entire antituberculosis movement and shows graphically the phenomenal growth of this campaign in the last seven years. In 1905, when the first directory was issued, there were only 183 organizations and institutions for the care and treatment of tuberculosis in the entire United States. In the second edition, published in 1908, there were 649 listed, while the total number of tuberculosis institutions and antituberculosis organizations at present is 1,440.

1. Cloth, 331 pages, price 50 cents, 105 East Twenty-Second Street, New York.

Medical Education and State Boards of Registration

COMING MEETINGS

CALIFORNIA: San Francisco, August 1. Sec., Dr. Charles L. Tisdale, 929 Butler Building.
NEBRASKA: Lincoln, August 9. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

The University of Michigan Establishes a Course in Public Health

The Department of Medicine and Surgery of the University of Michigan has provided for and will inaugurate next year courses leading to the degrees of master of science (in public health) and of doctor of public health. Candidates must possess the two degrees of bachelor of arts and doctor of medicine.

For the degree of master of science in public health the course of instruction will cover one academic year. For the degree of doctor of public health the course will extend through two years. Research work will be required for the doctor's degree.

The subjects in which instruction will be given will be as follows:

FIRST SEMESTER	Hours Weekly
Advanced bacteriology and parasitology	10
Practical hygiene (meat, milk and water)	5
Physical education	5
Sanitary engineering (plumbing, draining)	2
Building, sanitation	1
Hydraulic work (water supplies)	2
Autopsy technic	2
Special pathology of infectious diseases	5
Social and vital statistics	1
Sanitary legislation	2

SECOND SEMESTER	Hours Weekly
Practical hygiene (foods, clothing, personal hygiene, prophylaxis, quarantine, isolation, disinfection, disposal of dead, etc.)	10
Physical education (theory and application of physical training, practical anthropometry)	5
Sanitary engineering (garbage and waste disposal, sewage)	10
Pathology of occupational diseases	1
Serum and vaccine therapy	5

Preliminary Educational Requirements in Louisiana

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, writes that on and after October 18, 1911, applicants for license to practice medicine in Louisiana must furnish satisfactory evidence of possessing qualifications such as are obtained by a student finishing and graduating from a four-year high school, with educational units showing fourteen units, with the following distributions:

REQUIRED: (a) English, 3 units (grammar, rhetoric, literature, each 1 unit); (b) mathematics, 3 units (algebra, 1½ units; plane geometry, 1 unit; solid geometry, ½ unit); (c) history, 2 units, selected from history of England and America, 1 unit; history of United States, 1 unit; general history, 1 unit; Greek and Roman history, 1 unit; (d) language, Latin, 2 units (grammar and composition, 1 unit; four books of Caesar or its equivalent, 1 unit).

ELECTIVE: French, 1 or 2 units; German, 1 or 2 units; Spanish, 1 or 2 units; physics, 1 or 2 units; chemistry, 1 or 2 units; botany, ½ or 1 unit; zoology, ½ or 1 unit; physiography, 1 unit; physiology, 1 unit; freehand drawing, 1 unit; mechanical drawing, ½ unit; manual training, ½ to 2 units. Among these, fourteen (14) units must be satisfied.

A unit represents the work done in a high school in one full session of not less than thirty-six weeks, with five recitations of forty minutes each per week.

The board will accept the following as satisfying the above qualifications:

a. A diploma from a reputable university or college granting the degree of A.B., B.S., or an equivalent degree.

b. A certificate of admission by examination to entrance in a standard university, viz., one requiring a high school diploma with the above fourteen units.

c. A diploma from a high school, academy or normal school, the curriculum of which may satisfy by certification the fourteen specified units.

d. A medical student's certificate issued by certification or after examination by any state board of medical examiners having a standard for certification based on a high school diploma with the fourteen required units.

As some states require the certificates from other state boards of medical examiners to be issued or certified by state officials in education not connected with the university with which the medical school or department is identified, the Louisiana State Board of Medical Examiners has established the following rule:

Students beginning the study of medicine in the State of Louisiana will be furnished, on application, with medical students' certificates on (a) a certificate showing a credit of fourteen units from a recognized high school and on graduation from the same; (b) on examination before the superintendent of education of the State of Louisiana or of the City of New Orleans. Such certificates, to become valid, must be approved by the secretary of the State Board of Medical Examiners of Louisiana.

Book Notices

A POCKET-BOOK OF TREATMENT. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Leather. Price, $1.70 net. Pp. 348. New York: Longmans, Green & Co.

In this manual the author has aimed at securing brevity without the sacrifice of clearness. For this reason he has assembled in the first part of the book a description of the various methods of treatment to which the reader is referred under the individual diseases. In this section there are some valuable hints and reflections that ought to serve as food for thought by the reader. We commend special attention to the section on "Treatment by New Remedies" in which the genesis of nostrums from the recommendations of standard books on therapeutics is graphically described. The author says, "The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients."

Under "Treatment by Hypnosis and Suggestion," it is interesting to note that the effects of homeopathic treatment and of many operations are referred to suggestion. Good directions are given for preparation for operations and after-treatment; it seems, however, as if it might have been better to refer the reader to his surgical text-books rather than to attempt to cover this subject in less than three pages.

The second part of the manual is mainly a collection of formulas; the names of diseases and syndromes are arranged alphabetically after the manner of other therapeutic indexes.

DISEASES OF THE ANUS, RECTUM AND SIGMOID. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Cloth. Price, $5 net. Pp. 476, with 152 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

One takes up this work with pleasant anticipations only to lay it down with a feeling of keen disappointment. Instead of a record of ripe experience of one of the Nestors among specialists in rectal diseases in this country, it turns out to be mainly a collection of extracts—one of them eight pages long—none too skilfully welded together.

After preliminary sections devoted to anatomy, physiology and examination, respectively, the various affections are discussed. The description of colostomy and extirpation of the rectum being separated by a chapter on tumors, and wounds and foreign bodies bringing up the rear. It strikes us that a more orderly arrangement would be preferable. In fact the whole work shows evidence of undue haste in its preparation. Chapters are included on "Affections of the Coccyx" and on "Congenital Dilatation of the Colon," though the connection of these with the field of work is not at first apparent. The latter condition does not involve the rectum; it causes constipation, to be sure, but several other conditions would also merit consideration on this account.

The work is marred by a totally unnecessary number of misprints (Henock, Shaffer, Schaeffer, Diffenbach, Diffienbach, *Pfleger's Archives*, coactor, lesions tertiaries, rectitis proliferante, etc.). THE JOURNAL is quoted as the American Medical Journal. Even the author's fellow specialists do not escape, the author of one work on this subject being alluded to as Goodsaull and another as Matthews.

While the print is good, the illustrations in several instances leave much to be desired for clearness. Altogether we regret to give it as our opinion that the present work cannot be looked on as making any material contribution to the subject of proctology.

HOSPITAL MANAGEMENT. A Handbook for Hospital Trustees, Superintendents, Training-School Principals, Physicians, and All Who Are Actively Engaged in Promoting Hospital Work. Edited by Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse." Cloth. Price, $3 net. Pp. 488, with 154 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This book represents the collaboration of twenty-one authors, including the editor, and covers every phase of hospital construction and equipment, with detailed information concerning every department and feature of hospital work and management.

Each of the authors, physicians for the most part, but including nurses, engineers, pharmacists, architects and superintendents of hospitals, is experienced in the feature about which he or she writes. With the vastly increasing number of hospitals being established in the smaller cities and towns of the country, there is a demand for the information which this book attempts to give. It is profusely illustrated. The feature of open-air treatment is not neglected, and outdoor hospitals are described and pictured and their equipment and management also set forth.

COURTSHIP UNDER CONTRACT. The Science of Selection. A Tale of Woman's Emancipation. By James Henry Lovell Eager. Cloth. Price, $1.20 net. Pp. 440. New York: The Health-Culture Co., 1911.

In this story the author, a physician, attempts to teach the desirability of more careful selection of a life partner from a eugenic standpoint, on account of the supposed beneficial influence it would have on the future of the human race. The heroine and the hero attempt the somewhat radical experiment of living in one household without entering on marriage relations for a probationary period of six months under certain conditions of publicity and chaperonage.

Medicolegal

Liability for Attempting to Obtain Money by False Pretenses in Wilful Misrepresentation of Existence of Disease

(People vs. Arberry (Cal.), 114 Pac. R. 411)

The Court of Appeal, First District, California, affirms here a judgment convicting the defendant of the crime of an attempt to obtain money by false pretenses; and the Supreme Court of California denies a rehearing. The Court of Appeal says that there was evidence to the effect that one Muscio, a young man about 21 years of age, had read in a San Francisco paper the advertisement of "Dr. Taylor & Co.," which stated the ability and skill of the doctors in charge, and their undertaking specially to cure all diseases of men and youths. He went to San Francisco and, with the advertisement in his hands, called on "Dr. Taylor & Co.," and asked to see Dr. Taylor. The defendant appeared and stated that he was Dr. Taylor, and at all times thereafter was addressed by Muscio as Dr. Taylor. Muscio was taken into a consultation room and examined by the defendant, who by manipulation of the prostate gland, obtained therefrom a milky fluid—an easy thing for a physician to do—which he showed to Muscio, and without any examination of it, microscopic or otherwise, informed him that it was pus from an abscess of the prostate gland, and demanded of Muscio $300 to cure him. Muscio having only $10 with him, the defendant took that, and agreed that for $200 more he would cure him. At the defendant's suggestion and dictation, Muscio wrote to an aunt a letter as follows: "Dear Aunt—I am sick and won't be home until the latter part of the week, and I need $200. Please send it to me at once to this address." This letter was written on the letter-head of "Dr. Taylor & Co." Then, after the defendant got that money, "Dr. Taylor & Co." wrote to the aunt that they had discovered a serious complication and would advise her to come to San Francisco and see them, and, when she did so, the defendant stated that Muscio had a valvular disease of the heart, that he might drop dead at any moment, but that he, defendant, could cure him, and would do so for $200, although it was worth $300. An examination made on Muscio by three physicians showed not only that he had never had an abscess of the prostate gland, but that his heart was normal, and that he had no valvular trouble of that organ.

The amended information charged the defendant with a felony, namely, an attempt to obtain money by false pretenses, by falsely representing and pretending that said Muscio had an affection of the heart of a serious nature, that is, had valvular disease of the heart, which was represented to the said aunt to be of such a nature that it endangered the life of the said Muscio, who was apt to drop dead at any time, and which affection or disease of the heart was of such a nature that the same required immediate medical attention, for which medical attention the sum of $200 was demanded. There was no error in overruling a demurrer to the amended information. It stated facts sufficient to constitute a public offense. The statement that the defendant was suffering from a valvular disease of the heart was a statement of a fact. It was not given as an opinion, but it was a statement voluntarily made by the defendant to a person from the country, ignorant of medicine and diseases, and who had the right to rely on a physician's honor and integrity. Nor did it lie in the mouth of the defendant to say that the aunt had no money, so that it would have been impossible for him to accomplish the contemplated crime. It was sufficient that the means was apparently adapted to the end in view, although circumstances independent of the will of the defendant left the crime uncommitted.

The profession of medicine is an honorable and useful one, and the skilful, careful, honest physician who devotes his time—often his days and nights—to the relief of suffering humanity is a blessing to the community in which he resides. But while this is true, there is probably no profession or calling which affords greater opportunity for the dishonest quack to thrive and become wealthy off the ignorance and stupidity of his patients. There is little danger of an honorable, upright physician being held to criminal account for a mistaken diagnosis; but where a dishonest physician has made a wilfully false statement as to a mortal disease, solely with the view of obtaining money from the victim, the law should deal severely with such physician. The court does not mean to even intimate by what has been said that the law will hold a physician liable criminally for a statement honestly but mistakenly made as to his professional judgment in regard to a disease. But the fact that one is a licensed physician will not be allowed as a cloak to shield him from all responsibility for statements wilfully made, with the sordid view of obtaining the money of the unwary.

The letters sent to the aunt, signed in typewriting "Dr. Taylor & Co.," were properly admitted in evidence. The evidence sufficiently connected the defendant with them and with the demands and statements therein made.

Neither did the court commit error in allowing evidence as to the prior statement that Muscio had an abscess of the prostate gland, and the fact that the defendant received $200 to cure that. The transaction was with the same parties, from the same "Dr. Taylor & Co.," the defendant in each case representing himself to be Dr. Taylor, and each transaction was with the aunt of Muscio. It was admitted, not for the purpose of showing another and distinct crime, but to show the intent of the defendant in making the representations to the aunt that Muscio had valvular disease of the heart, and the question as to whether or not his statement was made with the intent of procuring money and in violation of the law.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Experimental Medicine, New York

July

1 *Strongyloides Infections in Man and Animals in Canal Zone. S. T. Darling, Ancon, C. Z.
2 Toxic Action of Certain Normal Serums and Its Relation to Anaphylaxis. H. Zinsser, California.
3 *Immunity and Anaphylaxis. R. M. Pearce, H. T. Karsner and A. B. Elsenbrey, Philadelphia.
4 *Calcium and Iron Incrustation and Other Lesions of the Elastic Tissue of the Spleen and Liver. T. P. Sprunt, Baltimore.
5 *Serum Treatment of Influenzal Meningitis. M. Wollstein, New York.
6 Formation of Precipitates After Intravenous Injection of Salvarsan. D. R. Joseph, New York.

1. **Strongyloides Infections.**—From a study of strongyloides infections in man and animals, it has been determined by Darling in confirmation of the view of Grassi, Calmette and others, that they are not causative factors in the production of diarrhea. The mother worm, however, burrows into the mucosa and deposits her ova there. Certain tissue reactions take place and are evidenced by the cellular proliferation in those portions of the intestines occupied by the nematodes. Portals of entry for various microorganisms are made by the female mother worm and her larvæ in the small intestine, and, while no case of general bacterial infection has been proved to have arisen in this way, Darling regards its occurrence as possible and highly probable.

3. **Immunity and Anaphylaxis.**—The sera of rabbits injected repeatedly with the nucleoproteins, globulins and albumins of the liver and kidney of the dog gave no evidence *in vitro* or *in vivo* experiments of organ affinity. The precipitin test offered no proof of the specificity of these sera for the proteins employed as antigens. The anaphylaxis reaction applied to the same proteins indicate a slight relative organ affinity but no specificity as far as the respective protein fractions are concerned. The relative organ affinity resides, the authors believe, rather in the globulin and albumin fractions than in the nucleoprotein fraction. Dog serum used both as a sensitizing and an intoxicating agent gives rise to very active cross reactions with organ proteins, thus failing to support the theory of organ or of protein specificity. These results do not support the view put forward that nucleoproteins play an important part in the course of production of cytotoxic immune sera.

4. **Calcium and Iron Incrustation of Liver.**—The lesion described by Sprunt consists of a selective impregnation of the elastic tissue in the splenic trabecula and vessels with the phosphates, and perhaps other salts, of calcium and iron. There is a further chemical change in the elastic fibers which may be expressed by the term "elacin." Degenerated and, especially, calcified elastic tissue, even more than calcification in general, seems to possess an affinity for iron salts. The iron incrustations occur principally in congested or hemorrhagic tissues. The etiologic agent in this case is obscure. The only other example of this lesion in the spleen was in a case of Banti's disease. Many features of this case suggested a primary splenomegaly, but the evidence in its favor was not conclusive. Calcified elastic fibers, without the iron and elacin reactions, were also present in the liver, which was the seat of a recent apparently biliary or infectious cirrhosis. The elastic tissue of other organs showed nothing remarkable except in the skin, in which the fibers were undergoing the usual senile changes.

5. **Serum Treatment of Influenzal Meningitis.**—The injection of virulent cultures of *B. influenzæ* into the subdural space of several species of lower monkeys was followed by the development of an acute inflammation of the meninges, corresponding in clinical, bacteriologic and pathologic effects with influenzal cerebrospinal meningitis in human beings. Wollstein found that by repeated injection, over a period of many months, of living virulent cultures of *B. influenzæ* into the goat, an immune serum possessing moderate agglutinating and high opsonic power may be produced, which is capable, when injected into the subdural space, of arresting the progress of an experimental influenzal meningitis, and of bringing about recovery in monkeys thus affected. In view of the highly fatal character of influenzal meningitis in human beings, the employment of an immune serum by subdural injection is recommended. Undoubtedly it will be necessary to apply the serum early and by repeated injections, by means of lumbar puncture, to secure beneficial results. The early application will, in turn, be dependent on prompt bacteriologic diagnosis, which can be made, as a rule, by the immediate microscopic examination of the cerebrospinal fluid without the employment of cultural methods.

Vermont Medical Monthly, Burlington

June

7 Present Treatment of Pulmonary Tuberculosis. W. C. Klotz, New York.
8 The Thyroid. C. A. Pease.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June

9 Therapeutic Value of Sodium Cacodylate. S. L. Dawes, Albany.
10 *Successful Treatment of Tetanus. H. Beates and B. A. Thomas, Philadelphia.
11 "The Fasting Cure" Answered. A. Bassler, New York.
12 *Some Observations on Vaccine Therapy. E. W. Nagle, Boston.
13 *Uses of Nickel Sulphate in Medicine. L. Kolipinski, Washington, D. C.

10. **Treatment of Tetanus.**—The essential features in the history of this case from the therapeutic standpoint were: first, the onset of the disease four days prior to treatment (and three weeks after vaccination), affording ample time for the development of the tetanic toxins, and, second, the indefinite period of incubation, which may have been twenty-one days, on the supposition that the patient was infected at the time of vaccinia, although the more plausible and truer solution is probably that the tetanus bacillus gained access to the vaccination wound subsequently by virtue of inadequate after-treatment, and the patient's environment in and about a stable. The history and physical condition of the patient when first seen and treated were not such as to warrant a hopeful prognosis. The authors determined on a definite line of treatment, namely: antitetanic serum as the sheet anchor, and either magnesium sulphate or chlorbutanol (chloretone), or both, as symptomatic measures for the relief of spasticity, muscular spasms or convulsive seizures. A noteworthy fact relative to the intraspinal injections, six times of magnesium sulphate, and three times of antitetanic serum, was that on no occasion did there occur a flow of cerebrospinal fluid from the aspirating needle prior to the instillation of either the magnesium sulphate or the antitoxin. The following are emphasized as the important indications: 1. The destruction at the focus of origin of the tetanus bacilli. 2. The neutralization of the tetanolysin in the tissues. 3. The neutralization of the tetanospasmin in the cord itself. The special symptoms, such as sleeplessness, the spasms themselves, etc., were treated by the administration of suitable remedies meeting the indications, with marked amelioration of suffering.

12. Abstracted in THE JOURNAL, June 3, 1911, p. 1676.

13. **Uses of Nickel Sulphate in Medicine.**—This comparatively unknown therapeutic agent Kolipinski has used successfully in a number of conditions. The dose of nickel sulphate (the salt usually used) is 1 grain, after meals or food, three or four times a day. One-half grain will often achieve good therapeutic action, but the larger dose is surer and as well borne. Two to five grains or more are so prone to cause severe nausea and vomiting that these quantities must be considered too large for practical use. The forms of administration are pill, tablet and solution. Nickel and cobalt, though closely related chemically and physically and similar in toxic action, are widely different as germicides, and, as medicinal agents, nickel is active and variedly useful, while cobalt is apparently inert. Nickel sulphate was found to be potent as a germ-destroyer and has an antibactericidal power.

It was applied by Kolipinski in several of the commoner parasitic skin diseases with success. Arrest of evolution and healing of the lesions resulted when it was applied in aqueous solution, in a strength of 1 to 2 per cent. It can be used as a wet compress, or mopped or brushed on the skin and allowed to dry there. It was found by Kolipinski to cure impetigo contagiosa, pityriasis versicolor or chromophytosis, trichophytosis corporis or ringworm of the body, and that other more obstinate form of eruption to treat, eczema marginatum. Alopecia areata showed a faint growth of very fine new hair at the end of a week, and at the end of six weeks normal scalp and hair covering. In acne vulgaris, Kolipinski says, it is a good remedy applied locally several times a day, and where the subject is young and pale, as is commonly the case in this disease, it may also at the same time be given internally. Other diseases reported on by Kolipinski are chorea, motor disturbance with spasm and incoordination much unlike chorea and chronic neuralgia of the face, tic douloureux, migraine of whatever form, chronic enteritis, epilepsy, emotional and psychic weakness, neurasthenia, etc. Kolipinski is very enthusiastic over the medicinal virtues of nickel, basing his enthusiasm on personal observation as well as on the experiences of others.

Ophthalmic Record, Chicago

June

14 Directions for Muscle Exercises. A. Duane, New York City.
15 Double Cross-Cylinder. J. N. Rhoads, Philadelphia.
16 Double Perforation of the Eyeball by Foreign Bodies, with Recovery of Perfect Vision. H. Freidenwald, Baltimore.
17 Influence of Salvarsan on the Eye. W. H. Crisp, Denver.

Southern California Practitioner, Los Angeles

June

18 Pellagra. G. Dock, St. Louis.
19 *Sterilized Spinal Fluid Subcutaneously Reinjected for Tubercular Meningitis. H. H. Lissner, Los Angeles.
20 *Pelvic Findings in the Female Insane, with Results Following Treatment. E. A. Hall, Long Beach, Cal.
21 History of Medicine—Hippocratean Period. B. Smith, Los Angeles.

19. **Sterilized Spinal Fluid in Tubercular Meningitis.**—One of the interesting features of Lissner's case was the amount of cerebrospinal fluid withdrawn. Fifty-five c.c. were withdrawn at one time and 45 c.c. twelve hours later, making a total of 100 c.c. Eighty c.c. were obtained from two punctures within an hour, and on several other occasions two punctures were done within twenty-four hours, without any evidence of untoward effects from the puncture, *per se*. The guide to the amount of fluid withdrawn was the condition of the patient, the effect on the symptoms and the rapidity of the flow. The fluid was caught in sterile tubes and the quantity measured from time to time. In this case 387 c.c. were removed in all. Lumbar puncture was performed twelve times. Five c.c. of this fluid were sterilized and reinjected, but so late in the course of the disease that no observation of its effect on the process could be noted. In considering the cytodiagnosis in this case, it was interesting to note that in the first specimen obtained and examined, the lymphocytes (small) predominated. At the second examination the lymphocytes still predominated, but the type had changed from the small lymphocytes to the mononuclear type of leukocyte.

20. **Pelvic Findings in Female Insane.**—Hall does not regard insanity as an obstacle to the performance of operations on women.

American Journal of Urology, New York

June

22 Summary of Results from Use of Vaccines and the Sera of Gonococci and Other Pyogenic Organisms in Urology. R. F. O'Neil, Boston.
23 Salvarsan in Syphilis. C. S. Stern, Hartford, Conn.

Archives of Pediatrics, New York

June

24 *Hereditary Syphilis and Wassermann Reaction. M. S. Reuben, New York.
25 Study of Non-Diphtheritic Exudates. S. S. Woody and J. A. Kolmer, Philadelphia.
26 Care of the Exceptional Child. E. B. McCready, Pittsburg.
27 *Premiums for Nursing Mothers and Milk Depots for Infants. C. Herrman, New York.
28 Case Showing Symptoms of Intracranial Pressure with Recovery. H. Lowenburg, Philadelphia.
29 *Delirium Tremens in a Boy of Twelve. C. F. Lewis, Austin, Minn.

24. **Hereditary Syphilis and Wassermann Reaction.**—Reuben holds that there is only one mode of transmission of syphilis from mother to child possible, and that is by way of the placenta. Whether a healthy non-diseased placenta can transmit spirochetes is an open question. Sufficient evidence is at hand to prove that in a majority of cases of syphilitic infants pathologic findings are noted, such as the syphilitic virus is known to produce. Spirochetes are usually found in abundance in the fetal portion of the placenta, and almost always in the cord, but are seldom found in the maternal portion of the placenta. From these facts one may make the following deductions: (1) If an infant is syphilitic its father may or may not have syphilis. (2) If an infant is syphilitic its mother invariably has syphilis. (3) The most usual mode of transmission of syphilis to infants is by way of the placenta.

Of 123 mothers whose blood was examined within a short time of birth of syphilitic infants, 110 (90 per cent.) gave a positive Wassermann reaction. Of 125 mothers, who at no time had any syphilitic symptoms and who at no time received any treatment, 82 (71 per cent.) gave a positive Wassermann reaction. Of twenty-five mothers (Knopfelmacher) who had symptoms, and some of whom had received specific treatment, eighteen (72 per cent.)gave a positive Wassermann reaction. Mothers who give birth to syphilitic children react to the Wassermann test in the same way and to the same per cent., as do those who have acquired syphilis in an early latent stage. One may, therefore, conclude, says Reuben, that mothers who give birth to syphilitic children are themselves syphilitic, whether they have any symptoms or not, and react to the Wassermann test as do those who have acquired syphilis in an early latent stage. Of 123 cases collected, in which the mother's blood was examined within a short time (less than one year) of birth of last syphilitic infant, 110 (90 per cent.) gave a positive Wassermann reaction. Many small collections of cases included in the 123 cases, reported by various investigators, gave a 100 per cent. positive reaction. If the mother's blood is not examined from three to five years of the birth of last syphilitic child only 50 per cent. of these mothers give a positive Wassermann reaction. Of 123 mothers who gave a positive Wassermann reaction, 110 of the infants (90 per cent.) gave a positive Wassermann reaction. Reuben says that the fact that thirteen of these infants did not give a positive Wassermann reaction does not mean that they have not syphilis. A certain per cent. of syphilitics with active lesions do not give a positive reaction, so that absence of a positive Wassermann reaction in these thirteen cases may be explained on that ground.

The great majority of infants of syphilitic mothers are themselves syphilitic. It may be possible that a syphilitic mother (i. e., with latent syphilis) may give birth to a healthy infant, but such a mother never gives birth to children who are immune to syphilis and healthy at the same time. As a corollary of the above, a luetic mother may give birth to luetic (great majority) or to healthy children, but to none that are immune. Infants suffering from hereditary syphilis almost invariably give a positive Wassermann reaction. Of 300 cases examined 298 gave a positive Wassermann reaction. In cases of hereditary syphilis, before any symptoms manifest themselves, the Wassermann reaction may be negative; later, with advent of symptoms, positive. Infants born of syphilitic mothers give a positive Wassermann reaction, though they have no signs nor symptoms of any syphilitic infection. Of forty-four children suffering from late hereditary syphilis, twenty-six gave a positive reaction and eighteen negative Wassermann reaction. When treatment is commenced as soon as the diagnosis is made, 75 per cent. of the cases give a negative Wassermann reaction within one month. When treatment is delayed for six months only 33 per cent. of negative reactions will be obtained. Of thirty-two women in whom syphilis was suspected and whose blood was examined for the Wassermann reaction, twenty-eight (87 per cent.) gave a positive reaction.

The most usual time for these women to abort is after the fourth month, at a time when the placenta is fully developed. This lends further proof to probable infection of the fetus by way of the placenta at this time. At the onset of the disease

its virulence is not as great (i. e., first three months) as it is at a later date; it then remains stationary (four to six years), and after a number of years begins to decline. Only 20 per cent. of mothers give a positive Wassermann reaction after birth of first infant; 100 per cent. after birth of fourth, fifth, sixth and seventh infant, and 80 per cent. after eighth infant. Of 904 children born to syphilitic mothers, 768 died within one year. To twenty-three syphilitic mothers 153 children were born; of these, 153 died within one year. An analysis of all the pregnancies of eighty syphilitic mothers shows the following: Number of conceptions, 464; abortions, 115; stillbirths, twenty; premature births, thirty-five; luetic at full term, 133; apparently healthy, eighty-seven; died within one week, seventy-five. It is seen, therefore, that on the average a syphilitic woman conceives about six times, but seldom has more than two and three-quarters living children, unless the number of pregnancies is more than six. Only 28 per cent. of all conceptions of syphilitic mothers result in full term syphilitic infants, and 85 per cent. of these die within one year, so that only 5 per cent. of all conceptions of syphilitic mothers result in syphilitic infants which survive the first year. Adding the 18 per cent. of the apparently healthy infants born to syphilitic mothers to the 5 per cent. of syphilitic infants which survive the first year, there is a total of 23 per cent. of all infants, which, born to syphilitic mothers, survive the first year. Seventy-seven per cent. of all conceptions of syphilitic mothers result in death of the infants within one year of birth. As syphilis causes death of the infants before birth in 50 per cent. of all pregnancies of syphilitic women, 3 to 4 per cent. would more correctly express the per cent. of syphilis as a cause of infant mortality than 1.2 per cent. The blood of every wet-nurse should be examined for the Wassermann reaction. If it is positive she has syphilis and should not be employed; if it is negative the blood of her infant should be tested; if it is positive the mother (wet-nurse) has syphilis, even though her own reaction is negative.

27. **Milk Depots for Infants.**—It is pointed out by Herrman that premiums to nursing mothers are unnecessary. The results do not justify the expenditure. The money can be used to better advantage in the employment of visiting nurses. Depots which simply distribute milk are of little or no value. Depots which, in addition to the distribution of milk, are under medical supervision, but have no adequate corps of visiting nurses, are of limited value. It is not necessary to distribute modified milk at the depots. From 75 to 80 per cent. of these mothers can nurse their infants for five or more months if properly advised and encouraged from the start. Most of the remainder can buy a quart of bottled milk, and the few who are unable can be much more economically provided with pure milk by other methods. The modification is taught the mother by the visiting nurse. The emphasis should be placed on the importance of breast-feeding, not on the distribution of cow's milk of good quality.

29. **Delirium Tremens.**—In Lewis' case the intoxication resulted from the ingestion of a cup of cider.

Military Surgeon, Washington, D. C.

June

30 *Medicine, the Benefactor of Mankind. William H. Taft, President U. S. A.
31 A Ready Means of Increasing Marching Capacity. W. W. Reno, U. S. Army.
32 A Psychopathic Malingerer. H. Butts, U. S. Navy.
33 A Recruit Depot Point of View. P. C. Field, U. S. Army.
34 Syphilis; Statistics from Hospital Practice. H. W. Jones, U. S. Army.
35 An Instance of Moro Surgery. W. R. Eastman, U. S. Army.
36 Disposal of the Excrement of Troops While on the March or in Bivouacs of Short Duration. I. W. Brewer, U. S. Army.
37 Filariasis at Fort Hancock, N. J. H. A. Knox, U. S. Army.

30. Abstracted in THE JOURNAL, May 13, 1911, p. 1399.

Archives of Internal Medicine, Chicago

June

38 *Calcification and Ossification. H. G. Wells, Chicago.
39 *Intra-Abdominal Pressures. H. Emerson, New York.
40 *Effects on Blood-Pressure of Intravenous Injections of Extracts of Various Anatomic Components of Hypophysis. D. Lewis, J. L. Miller and S. A. Matthews, Chicago.
41 *Value of Trophic Bone Changes in Diagnosis of Leprosy. A. B. Herrick and T. W. Earhart, Canal Zone.
42 *Experimental Study of Causes Which Produce Growth of Mammary Gland. R. T. Frank and A. Unger, New York.

38. **Calcification and Ossification.**—Wells summarizes his understanding of the essentials of calcification and ossification as follows: Calcium is carried in the blood in amounts not far from the saturation point, held in solution by the colloids and the carbon dioxid, and existing probably in the form of an unstable double salt of calcium bicarbonate and dicalcium phosphate. In normal ossification, and in most instances of pathologic calcification, the deposition is probably initiated by a process of colloidal absorption causing a concentration of this double salt in the hyaline matrix which is to be calcified, and which has a strong affinity for calcium salts. Reduction in the amount of carbon dioxid in such areas, or some unknown agency, causes a precipitation of calcium salts in this colloid matrix, and permits of further infiltration of dissolved calcium salts whenever the concentration of CO_2 in the fluids may be greater (Hofmeister). There seem to be no essential differences between the processes involved in normal ossification and in most instances of pathologic calcification; any area of calcification may be changed to true bone in the course of time. Calcium salts seem to exert a specific influence on connective tissue cells, causing them to form bone; without this stimulus they cannot form bone, at least not readily and normally.

Exceptional cases of calcification occur in which other processes are involved than in ossification. One of these, "metastatic calcification," occurs whenever from any cause the proportion of calcium present in the blood is so great that it requires the effect of both the colloids and of the CO_2 in maximum concentration to keep it in solution; then the calcium salts are deposited in those points in the body where the CO_2 content of the fluids is least. Another exception is seen whenever there is a considerable splitting of fats, the new-formed fatty acids in some cases combining with calcium to form calcium soaps. These calcium soaps are ordinarily absorbed, but exceptionally, when in large amounts, e. g., calcifying lipoma, etc., the fatty acid radicals may be replaced by P_2O_5 and CO_2. There is no satisfactory evidence, however, that this is a common, much less a usual method of calcification, and there is much evidence that it is not. Calcium deposition seems to depend, alike in normal and in most pathologic conditions, rather on physico-chemical processes than on chemical reactions.

39. **Intra-Abdominal Pressure.**—Emerson regards it as normal in the animals tested to exhibit a pressure within the free abdominal cavity which is above atmospheric pressure. This true positive intra-abdominal pressure is seen to fluctuate with the respiratory excursion of the thorax and diaphragm. This pressure is seen to depend on the contraction of the diaphragm and the tone or the active contraction of the abdominal wall muscles, including the pelvic floor, acting from relatively fixed points of the thorax, pelvis and vertebral column. Whatever diminishes or abolishes the tone of the diaphragm and abdominal muscles, causes a fall in the positive abdominal pressure. If at the same time the thoracic expansion is active, there will be a fall of abdominal pressure below atmospheric pressure. If at any time the tone or activity of the diaphragm and abdominal muscles is increased, whether the thoracic expansion is diminished or normal, the abdominal pressure will rise above its usual positive points. The tone or contractility of the abdominal muscles must persist or the pressure will fall to atmospheric or below. Distention of the abdomen by fluid or gas raises abdominal pressure The pressure recorded at any point in the abdominal cavity is equivalent to the pressure at the same moment at any other point in the cavity. The normal moderate positive pressure is better for absorption of fluid from the peritoneal space than atmospheric pressure, and *a fortiori*, a pressure below this, or than a pressure much above atmospheric pressure. Pressure much above the normal intra-abdominal pressure causes a fall in general arterial blood-pressure, due apparently to diminished venous inflow through the inferior cava, and a resultant diminution of systolic output from the left ventricle.

40. **Effect of Hypophysis Extracts on Blood-Pressure.**—The authors found that extracts of the pars intermedia, when injected intravenously, cause a decided rise in blood-pressure.

The extract does not need to come in contact with the pars nervosa to become active. Extracts of the pars nervosa also give a pressor effect. The primary rise is followed by a fall, which is succeeded by a rise associated with a marked slowing of the pulse. Extracts of the anterior lobe give a primary fall, which is followed in the majority of instances by a secondary rise in pressure above the level existing at the beginning of the experiment. These results confirm Hamburger's findings. The pressor substance is confined to that part of the anterior lobe bounding the cleft which contains groups of cells belonging to the pars intermedia. Ehrmann's test, elicited by Franchini with extracts of the anterior lobe, is explained in the same way. The contents of a cyst of the pars intermedia gave a decided pressor effect. A depressor substance soluble in alcohol, is found in the anterior lobe, the pars intermedia and the pars nervosa. It is not probable that two structures differing so much histologically as the pars intermedia and the pars nervosa would secrete a substance having the same effect on blood-pressure. The authors believe that the pressor substance is secreted by the pars intermedia and that it then passes into the pars nervosa. Whether it passes by way of the blood or the hyaline bodies they cannot say. The latter, however, do not form a striking feature in the histology of the ox hypophysis. The authors have never been able to obtain any pressor effect from extracts of the hypophyseal stalk. If the hyaline bodies pass through this and represent the pressor substance we believe that we should be able to elicit a pressor reaction with extracts of the stalk. In the ox, at least, there is a distinct break in the paths of secretion between the pars nervosa and the ventricular cavity.

41. **Value of Trophic Bone Changes in Diagnosis of Leprosy.**—The pathologic changes in the bones in leprosy occur in three different ways: 1. The true trophic disturbance due to the altered innervation, in which there takes place a simple atrophy or gradual absorption of the bone. 2. An osteomyelitis or periostitis caused by the lepra bacillus. 3. A necrosis or inflammation of either of the above arising from secondary involvement by pyogenic organisms. These processes occur mainly in the fingers and toes and lead to a loss of the digits, from which this form of the disease gets its name of lepra mutilans. Herrick and Earhart maintain that these trophic bone lesions, while not absolutely pathognomonic of the disease, are very characteristic of it. Any condition which might present a similar bone lesion could be differentiated readily by the previous history of injury or disease taken in connection with the examination of the case. Of all the trophic lesions of leprosy these are the most characteristic, and while not occurring in all cases they are found in the majority and very often sufficiently early to be of great aid in the diagnosis. It is in the anesthetic form of leprosy especially that these two forms of bone changes—the progressive distal atrophy and the concentric atrophy—furnish an additional diagnostic sign and one very characteristic of the disease.

42. **Causes of Growth of Mammary Gland.**—Frank and Unger regard the breast changes of pregnancy merely as an exaggeration of the cyclical changes of the sexual cycle, similar to the uterine changes, which occur at regular intervals, in preparation for the function of reproduction. Intra-uterine, prepuberty and puberty growth of the breasts is directly dependent on ovarian function. A cyclical change in the virgin breast occurs under the influence of the ovary. Castration does not cause rapid regression of the cyclical breast hyperplasia. No proof has been offered to show that the fetus or placenta directly produces growth of the breast in pregnancy. Evidence points to the fact that the persistent corpus luteum of pregnancy may produce this breast growth. The factors which favor or cause the persistence of the corpus luteum are unknown. Certain evidence (increase of the breast produced by hydrated mole with fetus, chorioepithelioma) makes it unlikely that the fetus is at any time the controlling factor. Nature's process is more complicated than the simple chemical stimulus assumed by Starling. As yet hyperplasia of the breasts has not been experimentally produced except by parabiosis, which does not explain the stimulus. Possibly the influence of other glands of internal secretion complicates the problem. Milk secretion is no index of quantitative increase in breast tissue. Under physiologic conditions milk secretion sets in when the ovarian influence is removed—in the new-born after birth; in the puerpera as the corpus luteum of pregnancy regresses; sometimes postoperatively after castration in the virgin (if the breast has been activated by the corpus luteum of menstruation).

Medical Fortnightly, St. Louis

June 10

43 Remarks on Movable Kidney. W. T. Elam, St. Joseph, Mo.
44 Syphilis Versus Accident and Life Insurance. S. G. Burnett, Kansas City.

June 26

45 Cardiac Murmurs and Their Clinical Significance. L. J. Moorman, Oklahoma City, Okla.
46 Open Air Treatment. D. L. Field, Jeffersonville, Ind.
47 In the Twilight. C. E. Warren, North Easton, Mass.
48 The Kiss of Death. G. H. Bogart, Terre Haute, Ind.
49 Treatment of Shock. W. F. Waugh, Chicago.

Boston Medical and Surgical Journal

June 29

50 *Suprapubic Intra-Urethral Enucleation of Prostate. J. B. Squier, New York City.
51 *Value of the Guinea-Pig Test in Genito-Urinary Tuberculosis. J. D. Barney.
52 Forbidding Case of Cancer Involving Tongue, Tonsil and Pharynx Permanently Cured by Radical Excision. M. H. Richardson.
53 *Diabetes Mellitus Treated by Feeding of Calves' Pancreas. W. N. Cowles, Ayer, Mass.

July 6

54 *Use of Coley Toxins in Treatment of Sarcoma. R. M. Green, Boston.
55 Malignant Lymphocytoma of Mediastinum. O. S. Waugh, Montreal.
56 *Does Appendectomy Always Relieve Symptoms? C. L. Scudder and H. W. Goodall.
57 Interpretation of Laboratory Findings. J. W. Fisher, Middletown, Conn.
58 Spina Bifida. B. B. Cates.

50. **Suprapubic Intra-Urethral Enucleation of Prostate.**—The method of enucleation of the prostate which Squier refers to is said materially to aid in reducing the length of time of operation. The details of the method are: Do not seek the most prominent lobe of the prostate and commence enucleating by boring through the bladder mucous membrane at this point, but insert the finger into the internal meatus and break through the roof of the prostatic urethra. Access is at once given to the line of cleavage between the lateral lobes just beneath the anterior commissure. The enucleation is then begun by working the finger upward and forward, freeing the apex of the prostate from its capsule in the region of the triangular ligament. A sweep of the finger frees it in front and on one side, then in like manner on the other, and the prostate is turned into the bladder, with its apex pointing upward, when a little separation from the capsule posteriorly completes its removal. Carried out in this way, with a little care, Squier says, there is practically no danger of injury to the rectum, and the enucleation is rapid and complete. The resulting wound in the bladder is on a higher level than if the bladder mucous membrane had been incised over the most prominent prostatic lobe, and during the subsequent drainage of the bladder is less liable to be constantly bathed in urine. The prostate having been removed from the bladder, a double drainage tube, whose total caliber is about No. 32 F., is inserted into the bladder wound and sutured at its upper angle by a chromic gut stitch, allowing the drainage tube to project into the bladder three-quarters of an inch. The lower angle of the bladder incision is accurately closed up to the tube with chromic gut sutures. The abdominal wall is closed with three or four figure-of-eight silkworm gut sutures, one loop of the stitch approximating the fascial plane and the other loop the skin. As soon as the drainage tube has been sutured into position, hot saline irrigation of the bladder is commenced and continued during the remainder of the operation through this double tube. By the time the abdominal wound has been sutured all active hemorrhage will be practically checked. Squiers claims that prostatectomy carried out in this manner can be completed in five or six minutes, and the patient need

be completely under the anesthetic but two or three. By the time the dressing is applied he is usually well out of the influence of the anesthetic.

51. **Guinea-Pig Test in Genito-Urinary Tuberculosis.**—The total number of guinea-pigs inoculated in the Massachusetts General Hospital during a period of two years was 252. The test was positive in sixty-seven cases, proved in fifty-eight cases, unproved in nine cases. The test was negative in 158 cases, proved in 139 cases, unproved in forty-six cases. Total number of tests proved, 197 cases. Test negative, pathologic report or autopsy positive, two cases; percentage of error in guinea-pig test, 1.01. Test positive, no tuberculosis of urinary tract, one. The author regards the guinea-pig test for tuberculosis, when carefully done, as by far the most delicate and invariably accurate diagnostic weapon at our disposal and that a negative test is of indisputable value.

53. **Diabetes Mellitus Treated by Feeding of Calves' Pancreas.**—Fortunately, the patient in this instance was fond of rare and raw meat and ate from one to six uncooked pancreases daily, averaging over three. He cut them into pieces about the size of an oyster and bolted the pieces whole. He began at once to improve, his appetite returned, his strength increased and he gained in flesh. His diet was not much restricted, nothing but sugar was forbidden. In a few days he was out of bed, in two weeks he was out of doors and weighed 164 pounds, which was a great gain from his lowest weight. Two weeks later he weighed 180 pounds, a gain of 16 pounds in fourteen days. The thirst was lessened. The urine had fallen to 2 to 3 quarts in twenty-four hours; specific gravity, 1028 to 1030. It was never found sugar-free. His health continued to improve, he became strong and ruddy and said that he had never felt better. He continued to eat pancreas and felt well enough to engage in active business.

Early in March, 1897, he ate some stale pancreas, vomited, became disgusted with it and never ate another. Soon after, his business venture proved a failure and the diabetic symptoms gradually returned, so that in June, 1897, he had lost much of his gain in flesh and strength; urine 7 to 8 quarts; specific gravity, 1035 to 1038. About July 1 he developed an enormous carbuncle of the neck and upper part of the back and died July 11, 1897.

An autopsy showed the thoracic and abdominal organs, except the pancreas, normal in gross appearance. The pancreas was represented by a fibrous cord about one-fourth the size of the normal gland. Unfortunately, post-mortem changes made it impossible to discover anything about the minute changes in the specimen. Cowles has tried the same treatment in several other cases of diabetes without benefit, but no other patient has been able to eat such a quantity of raw pancreas or continue eating it as long.

54. **Use of Coley Toxins in Sarcoma.**—In the series reported by Green there were twenty cases; thirteen cases occurred in males, seven in females. The average age of the males was 34 years, of the females 32. The series presents a wide diversity in location and type of tumor. The right side of the body was involved eleven times, the left nine—figures which tend to show the symmetrical distribution of sarcoma rather than its alleged predominence on the right. In seven cases the tumor was of the round-cell type, in three spindle-cell, in the remaining ten of varying types or not stated. In four cases the thigh was involved, in three the upper jaw, in two the cervical lymph-nodes; the remainder were scattering. From a study of these cases the following conclusions are drawn by Green: The use of Coley toxins alone in the treatment of sarcoma is warrantable only in obviously inoperable cases and then as a last resort. As an adjunct to surgery in the treatment of sarcoma, or as a prophylactic against recurrence, the use of Coley toxins is advisable, though by no means of definitely established value.

56. **Appendectomy.**—There were 640 cases of appendectomy in the series here reported; 178, or 28.8 per cent., of the patienst were females; 462, or 72.2 per cent., males. The whole number of hernias following appendectomy was sixty-five, or 10 per cent. Twenty-three, or 35.4 per cent., in females and forty-two, or 64.6 per cent., in males. The whole number of drained cases was 309, or 48.2 per cent. The whole number of undrained cases was 331, or 51.8 per cent. Fifty-two patients, or 17 per cent. of the 309 drained cases, had hernia in the cicatrix of operation; sixteen were females and thirty-six were males. Thirteen patients, or 3.9 per cent. of the 331 undrained cases, had hernia in the cicatrix of operation. Seven were females and six were males. The number of patients who reported from one to five years after operation was sixty-one. The number reporting from five to fifteen years after operation was 500. The number reporting from fifteen to twenty-two years was eighteen. Condition reported as good, very good, excellent, well, perfectly well, O. K., etc., 606 patients, or 94.6 per cent. Of these 606 patients, ninety-five reported health better than before operation. Condition reported as poor after operation, twenty-six, or 4.6 per cent. Condition reported as poor health before and after operation, eight. In these reports were mentioned two right inguinal hernias, one double inguinal hernia and one case with both inguinal rings enlarged and with impulse on cough. There were four cases of phlebitis following operation. There were nine cases reported as nervous after operation.

From the analysis Scudder and Goodall believe certain important facts appear. The drained cases are more likely to have a hernia in the cicatrix following operation. The undrained cases are less likely to have a hernia in the cicatrix following operation. It may be concluded in general, then, he says, that in this series of appendectomies the operation benefited the patient, that comparatively few unnecessary operations were done and that there were no distressing sequelæ.

Virginia Medical Semi-Monthly, Richmond

June 9

59 *Preventive Medicine—What It Has Done and What It Can Do If the State Recognizes Its Obligations to the Public. J. A. White, Richmond.
60 Surgical Aspects of Typhoid. G. T. Vaughan, Washington, D. C.
61 Medical Aspects of Exophthalmic Goiter. A. L. Tynes, Staunton.
62 Venesection—Its Uses and Abuses. C. B. Conklin, Washington, D. C.
63 Conservatism in Ovarian Operations. H. S. MacLean, Richmond.
64 Relation of the Tonsil to Systemic Diseases. G. O. Sharrett, Cumberland, Md.
65 Hemoglobinuric Fever. W. B. Barham, Newsoms.

59. Abstracted in THE JOURNAL, April 8, 1911, p. 1063.

Lancet-Clinic, Cincinnati

July 1

66 *Tuberculosis of Bovine Origin in Children, and Its Prevention. William H. Peters, Cincinnati.
67 Tuberculosis. S. B. Heibert, Cincinnati.
68 Some Phases of Acute Appendicitis. H. J. Whitacre, Cincinnati.

66. **Tuberculosis of Bovine Origin in Children.**—Peters thinks that the greatest value of certified milk to a community is its educational feature, teaching the people to appreciate a clean milk supply and then they demand a better general supply. It gives them a basis for comparison. It promotes a feeling of security in the physician, enabling him to prescribe a clinical milk, pure and of known content, rather than tolerate an unwholesome raw milk or pasteurized dirty milk. As an institution of the profession, certified milk stands out preeminently. Professional control, backed up by public opinion and professional spirit, are the fundamentals for every clean milk supply.

Medical Record, New York

July 1

69 Medical Aspects of Modern Life Insurance. F. L. Hoffman, Newark, N. J.
70 *Mechanism of Presystolic Murmur. T. S. Hart, New York City.
71 *Radical Frontal Sinus Operations. J. E. MacKenty and G. H. Cocks, New York City.
72 Fatality of Text-Book Hydrotherapy. S. Baruch, New York City.
73 *Treatment of Pulmonary Tuberculosis Based on Assumption that the Dietetic Cause of the Disease Is Lime Starvation. J. F. Russell, New York City.
74 Technic of Urethral Examinations. W. S. Reynolds, New York City.

July 8

75 *Decapsulation of Kidney in Treatment of Chronic Bright's Disease. J. Tyson, Philadelphia.
76 Proper Attitude of Corporation to Its Injured Employees. J. F. Culp, Harrisburg, Pa.
77 Drink Habit, with Special Reference to Office Treatment. C. A. Rosenwasser, New York City.
78 Clinical Observations in Some Cases of Prostatic Obstruction. J. Pedersen, New York City.
79 Treatment of Neuritis with Hot-Air Douche. L. Stieglitz, New York City.
80 *Case of Ovulation Without Menstruation. M. J. Siegelstein, New York City.

70. **Mechanism of Presystolic Murmur.**—Hart believes, from a careful study of four cases of presystolic murmurs, that in certain cases the short crescendo murmur preceding the first sound of the heart in mitral stenosis is not due to auricular activity. The four cases described presented well marked clinical signs of mitral stenosis. There was at no time an absence of the presystolic thrill and murmur in any of the cases. The graphic records showed the ventricular form of venous pulse and an entire absence of evidence of gross auricular contraction.

71. **Radical Frontal Sinus Operations.**—The authors regard Knapp's operation as the type of operation best adapted to the cure of sinus disease with the least external deformity.

73. **Treatment of Pulmonary Tuberculosis.**—It is pointed out by Russell that the highest per cent. of apparent cures in all patients treated at sanatoria is 34, the lowest 5.07, while at the Thompson Street Dispensary the per cent. is 55.3. The sanatorium showing the highest per cent. of apparent cures in all cases is the New Mexico Cottage Sanatorium, where the average cost per patient for nine month's treatment is said by the physicians-in-chief to be nearly $1,000. Russell claims that all ambulant cases should be treated in dispensaries and the work of sanatoria restricted to the care of advanced cases with continuous fever or complications which necessitate rest.

75. **Treatment of Chronic Bright's Disease.**—Tyson presents the histories of four cases in which decapsulation of the kidneys was done for the cure of Bright's disease, with excellent results as far as the improvement of health and the ability to work was concerned. In none of them did the albumin entirely disappear.

80. **Ovulation Without Menstruation.**—Siegelstein's patient was a primigravida, a well developed and husky girl of the blonde type, 20 years of age, not anemic. All her measurements were normal and she was delivered of a normal child the same day. She had only menstruated once at the age of 17, for about three days, not profusely, but with cramp-like pains in the abdomen and back. Since that time she has never menstruated nor has she had any molimina during the expected period and she did not realize that she was pregnant even after the fourth month, when her abdomen was already slowly enlarging.

Chicago Medical Recorder

June

81 Social Service Work in Hospitals. R. C. Cabot, Boston.

Journal of South Carolina Medical Association, Charleston

June

82 Typhoid Fever: Alkaline Treatment. Thirty-Five Consecutive Cases. W. T. Lander.
83 Septicemia. W. B. Sparkman.

New York Medical Journal

July 1

84 *Case of Pseudochylous Ascites. F. P. Henry, Philadelphia.
85 Operation of Choice in Carcinoma of Rectum. J. A. Blake, New York City.
86 Primary Cholecystectomy vs. Cholecystotomy. H. Lilienthal, New York City.
87 *Perforating Duodenal Ulcer with Report of Cases. J. A. Lichty, Pittsburg.
88 *Alcohol Injection in Trifacial Neuralgia. F. C. Keller, New York City.
89 Metastatic Growths of Central Nervous System. B. Sachs, New York City.
90 Clothing and Regulation of Body Temperature. H. F. Wolf, New York City.
91 Comparative Study of Case of Paresis and of Tabes Dorsalis After Administration of Salvarsan. A. L. Wolbarst, New York City.
92 Academy of Medicine in Paris. F. Dowling, Cincinnati.
93 Prolongation of Heart Life. W. F. Waugh, Chicago.

84. **Pseudochylous Ascites.**—The ascitic fluid in Henry's case contained serum-albumin, serum-globulin and a small amount of mucin. Very little fat was present. Lecithin was present in notable amount and in association with globulin caused the opacity of the fluid. Traces of sugar, probably a dextrose, were noted. The ash contained in a total of 0.7892 gram per 100 c.c., 0.5823 gram of chlorid (calculated as sodium chlorid); phosphates and sulphates.

As determined by the analysis, therefore, the fluid belongs to the class of "pseudochylous fluids."

87. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1580.

88. **Alcohol Injection in Trifacial Neuralgia.**—A successful injection, or series of injections, says Keller, is followed by relief for about the same length of time as that following a first resection of a peripheral nerve. Reinjection for recurrence gives a longer period of relief than repeated resection. In cases in which it might be deemed advisable to do a resection of the Gasserian ganglion, or the Frazier operation, the injection would no doubt be a valuable preliminary treatment to put the patient in better condition for the radical operation.

Journal of Ophthalmology and Oto-Laryngology, Chicago

June

94 Acquired Ametropia. H. B. Gratiot, Dubuque, Iowa.
95 Anatomic and Physiologic Relation Between the Eye and Nose. A. H. Andrews, Chicago.

Louisville Monthly Journal of Medicine and Surgery

June

96 Surgical Aspect of Malignant Disease. H. H. Grant, Louisville.

American Medicine, New York

June

97 Analytical and Statistical Study of Bowel Diseases in Infancy and Childhood. S. G. Gant, New York City.
98 Present Status of Cranial Surgery. E. Sachs, New York City.
99 Bronchoscope, Esophagoscope and Gastroscope in Diagnosis and Treatment. P. Schoonmaker, New York City.
100 Treatment of Puerperal Eclampsia. G. L. Brodhead, New York City.
101 Indications for Abdominal Cesarean Section, Technic of Operation. R. McPherson, New York City.
102 Treatment of Abortion. B. H. Wells, New York City.
103 Treatment of Atrophic Rhinitis. S. Goldstein, New York City.
104 Extrauterine Pregnancy, with Report of Cases Operated On Before Primary Rupture. N. G. Bozeman, New York City.

Laryngoscope, St. Louis

June

105 Medico-Educational Problem of Deaf Child. G. Hudson-Makuen, Philadelphia.
106 Removal of Scissor-Blade from Ear Three Years and Three Months After Its Introduction. O. J. Stein, Chicago.
107 Serous Labyrinthitis and Extra-Dural Abscess; Operation; Recovery. E. T. Senseney, St. Louis.
108 Fetid Necrosis Following the Simple Mastoid Operation. H. Friedenwald, Baltimore.
109 Case of Lymphosarcoma of Pharynx, with Unusual Lymphatic Involvement. O. J. Stein, Chicago.
110 Severer Types of Tonsiliar Infection. D. S. Dougherty, New York City.
111 Some Indications and Contra-Indications for Removal of Faucial Tonsils. J. B. Greene, Asheville, N. C.
112 Septic Infections of the Mouth and Throat. M. D. Lederman, New York City.
113 Report of Over 400 Ear, Nose and Throat Patients Treated at the University Hospital in Manila. H. Winsor, Philadelphia.
114 Treatment of Ozena by Submucous Injection of Paraffin Into Nasal Septum; Review of Other Methods. H. Kahn, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

June 24

1 Significance of Pus in the Anterior Chamber. J. H. Parsons.
2 Salvarsan in Mercury and Syphilis. H. C. French.
3 *The Wassermann Reaction in Relation to Cancer. A. Foerster.
4 Case of Appendicitis Illustrating the Necessity of Early Operation. D. D. Malpas and Ph. de Lostalot.
5 Chloretone in Sea-Sickness. D. A. Welsh.
6 Hydatid of the Uterus. A. E. Giles.
7 Infantile Paralysis in Girl Aged Five Years. F. Hernaman-Johnson.
8 National Insurance Bill and Preventive Medicine. H. M. Richards.
9 Sir Charles Bell and Functions of the Fifth Nerve. A. D. Waller.
10 Motoring Notes. C. T. W. Hirsch.

3. **Wasserman Reaction and Cancer.**—The assumption that the serum of a patient affected with cancer might be altered in a manner similar to that which we must admit for syphili-

tic serum is held to be rational by Foerster. He points out that from the clinical point of view the similarity of some lesions, such as some ulcerations of the palate and of the tongue, and the frequent history of syphilis in cases of lingual cancer would justify such an investigation. A reliable serodiagnosis of cancer would be of the utmost value for the differentiation of abdominal ailment. Following these ideas, he undertook: (1) To test a series of cancer cases by means of the Wassermann reaction in order to find out how often syphilis could be traced; (2) to prepare an extract from purely cancerous material to determine its dosage, and then to test a series of normal, cancerous and syphilitic serums with this extract. The technic used was the one practiced and taught by Wassermann. The cases of lingual syphilis examined comprised practically all types: mucous plaques, glossitis, leucoplakia and ulcers. Every one gave a positive reaction. Treatment had practically no influence on the reaction. The date of infection lies between two and forty years back, according to the patient. For the preparation of an extract from cancerous material several points were observed. First, it was ascertained, as far as possible, that the patient who yielded the material never had syphilis. Second, the growth had to be in good condition and of sufficient size. Third, no normal tissue of the organ from which the growth was taken was to be present in the material to be used for the preparation of the "cancer extract." Thus most of the material available had to be rejected. An aqueous extract was made in the same way as the aqueous antigen extract of Wassermann is prepared. Another extract was made with 95 per cent. alcohol and was incubated at 60 C. for several hours. These extracts were then tested and their dosage was determined. The results with the alcoholic extract were so unsatisfactory that it was cast away.

The further experiments were made with the aqueous extract only, 0.2 c.c. and 0.25 c.c. It was tested with syphilitic, cancerous and normal serums, only inactivated serums being used. Purposely, some old serums were also tried. Repeated tests were made with several serums on different days and under slightly modified conditions. The results obtained with the cancer extract are very much the same as those obtained with the standard antigen. Not only was the reaction negative with a serum derived from a patient affected with rectal carcinoma, but every cancer case gave a negative reaction with the cancer extract. Neither the site of the tumor nor its histopathologic character had any influence on the test. Only syphilitic serums were positive; but here, again, the cancer extract is inferior.

Foerster concludes from these experiments that as an active etiologic factor syphilis plays a small rôle in cancer, if any at all. Epithelioma of the tongue is far more frequently preceded by syphilis than any other form of cancer. The right to place lingual cancer among the parasyphilitic lesions, next to tabes and general paralysis, must be questioned. It is possible to prepare an antigen extract for the Wassermann reaction from purely cancerous material. A serodiagnosis of cancer on the lines of the Wassermann reaction is at present not possible.

Practitioner, London

June

11 *Right-Sided Abdominal Pain in Women. J. Bland-Sutton.
12 Current Theories Regarding Arteriosclerosis. J. Cowan.
13 Review of Treatment by Salvarsan. A. Manuel and H. W. Bayly.
14 *Complications of Ulcer of the Stomach and Their Treatment. R. P. Rowlands.
15 Traumatic Neuroses and Psychoses. F. S. Palmer.
16 Termination in Diabetes Mellitus and Glycosuria. R. T. Williamson.
17 *Combined Cardiac and Pyloric Stenosis. T. G. Moorhead.
18 Recent Work in Thoracic Surgery. H. Upcott.
19 *A Case of "Cyanosis Enterogenous." T. A. Matthews.
20 Hints on Refraction. P. A. Harry.
21 *An Ocean Sanatorium. A. V. Elder.

11. **Right-Sided Abdominal Pain in Women.**—For several years it has been Bland-Sutton's custom in dealing with persistent right-sided abdominal pain, in which it is impossible after careful clinical examination to decide which organ is at fault, and in which the patient's condition is such as to justify operative interference, to carry out the following plan: After the usual preparations he makes a fairly free incision in the line of the right linea semilunaris and systematically examines the organs on the right side of the abdomen. This incision allows him to examine the pelvic organs including the ureters, the cecum, vermiform appendix, kidney, gall-bladder and ducts, the pancreas, duodenum, pylorus and liver. It also has the advantage of admitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned, and it is by no means uncommon to find two diseased conditions coexisting and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and, in a few, unexpected pathologic conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. Bland-Sutton says that years ago he came to the conclusion that no young women should be labeled hysterical simply because our crude methods of clinical investigation failed to indicate the cause of the painful sensations.

14. **Gastric Ulcer.**—Rowlands' opinion is that cancer of the stomach often starts in a simple chronic ulcer. He says that a careful study of the history of patients with gastric carcinoma strongly supports this view. The history of indigestion or of ulceration for some years is common in these cases. A man gave a history of indigestion of about two years' duration. While under treatment by lavage and dieting he lost 28 pounds in a fortnight and became very anemic from chronic hemorrhage. At the operation it was difficult to be certain whether a large ulcer in the pyloric region was innocent or malignant but a suspicious nodulation was noticed on the peritoneal surface at one side of the ulcer. The greater part of the stomach was therefore removed. Microscopic sections taken from several parts of the edge of the ulcer showed simple inflammatory change, but at one point undoubted carcinoma was seen. The man is now well and able to earn his living, about fifteen months after the operation. It is interesting to note that the small cardiac remainder of his stomach has enlarged to a great extent, as shown by a recent bismuth and Roentgen-ray examination. Since the operation the man has become much stouter than he has been for years. In another case a man had had the classical symptoms of gastric ulcer for three years. At the end of this time pyloric obstruction called for operation. Pylorectomy was performed. To the naked eye the ulcer was a typical simple ulcer, and most of the sections taken showed innocent disease, but those from one edge showed carcinoma. The carefully observed course of the disease in these patients, among others, clearly points to the recent supervention of malignant disease. Rowlands says that this is a powerful argument for more careful and prolonged medical treatment of acute ulcer as soon as it is diagnosed and especially for the earlier surgical treatment of chronic ulcer which has resisted medical treatment.

17. **Combined Cardiac and Pyloric Stenosis.**—The patient in Moorhead's case, aged 29, complained of extreme distention of the abdomen and of vomiting blood. The abdominal swelling had set in six weeks previously and the vomiting a few days before admission. There was no history of previous illness of any sort. The diagnosis arrived at after complete examination was that of peptic ulcer at the pylorus, the abdominal enlargement being due to flatulent intestinal distention. Suitable treatment was prescribed and everything was apparently going well, all pain, vomiting and flatulence having completely subsided, until the tenth day after admission, when there was sudden development of severe abdominal pain, and Moorhead concluded that perforation had occurred. The abdomen was opened and a large ragged perforation, situated in the anterior wall of the pylorus was found, with stomach contents widely diffused throughout the abdomen. After the ulcer had been sewed up it was found that the pylorus was practically completely occluded and in consequence a posterior gastro-enterostomy was performed. At the operation the stomach was found to be but little, if at all, dilated. An uninterrupted recovery was made and the patient left the hospital quite well a month later. Prior to her leaving a test-

meal was given and a stomach-tube was passed without difficulty for the purpose of removing the meal. The analysis showed nothing abnormal. Five months later Moorhead again saw the patient. She was now complaining of difficulty in swallowing and of vomiting back her food almost immediately after she had taken it. The passage of an esophageal bougie demonstrated the presence of a stricture of the esophagus 15 inches from the teeth and an examination of the food which she regurgitated showed the absence of gastric ferments and of hydrochloric acid. The existence of an esophageal stricture was further confirmed by the administration of a bismuth meal. The stricture was regarded as secondary to a peptic ulcer at the cardiac end of the esophagus. A valvular gastrostomy was made; the patient developed septic pneumonia and died five days later. The septic condition was almost entirely limited to the lower lobe of the left lung —a fact that suggests that infection took place by direct extension from the dilated esophagus.

19. **A Case of "Cyanosis Enterogenous."**—In addition to the fact that no abnormality could be detected in the chest in Matthews' case, the character of the cyanosis was quite unlike that caused by disease of heart or lungs. Neither was the color like that caused by Addison's disease nor cachexia, although the general appearance was anemic. The blood, when examined, showed no deficiency in amount of hemoglobin nor in the number of corpuscles, but the spectroscope proved that methemoglobin was present and further that this abnormal product was intracorpuscular. The patient had been taking two of the drugs which can cause methemoglobinemia, viz., potassium chlorate and acetphenetidin; but the possibility of the first named being to blame in this case was disproved by the observation that the pigment was inside the corpuscles themselves, while the steady uniformity of the color during the earlier months practically puts out the secret taking of acetphenetidin. The relationship of the cyanosis to the digestive organs was emphasized by the variations in color so regularly seen during the latter third of the illness, when cyanosis deepened with the increased flow of blood to the abdominal viscera after a meal and lessened when blood had been forced out of the abdomen by the violent muscular efforts of retching. Treatment was based on this observation and the patient recovered.

21. **An Ocean Sanatorium.**—After several years' experience afloat in large steamers providing a varied field of practice, Elder has come to the conclusion that the highest beneficial results possible are not obtained under the facilities existing for the sending of patients to undergo the sea-cure. The main reason for this is to be found in the general incompatibility of the patients' surroundings—in other words, absence of the accommodation and everything implied by that term requisite for invalids. He pleads for a vessel entirely devoted to the care of the sick. In other words, a floating hospital and convalescent institution combined, differing only from similar therapeutic institutions on land in the peripatetic nature of its location.

Medical Press and Circular, London

June 21

22 Bulbar Paralysis. F. S. Palmer.
23 Experiences with Salvarsan. A. Blayney and P. Dempsey.
24 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.
25 Strangulated Inguinal Hernia. T. R. MacDonald.

Clinical Journal, London

June 21

26 *Rational Treatment of Some Common Symptoms in Infancy. E. Pritchard.
27 Surgical Treatment of Tumors of the Breast. A. Edmunds.
28 Life Histories of Fifty Patients with Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

26. **Treatment of Symptoms in Infancy.**—Because the stock cough mixture is given indifferently in the early stages of congestion before there is any mucous secretion, in the second stage when the secretion is free, and in the third stage when the secretion has become mucopurulent, Pritchard employs three mixtures adapted to the pathologic indications of the three successive stages mentioned. The formulas of these three mixtures are as follows:

No. 1

	Gm. or c.c.	
℞ Potassii citratis	2	gr. iij
Ammonii lodidi	066	gr. j
Vini ipecacuanhæ	13	ɱij
Tincturæ camphoræ compositæ	2	ɱiij
Syrupi aurantii	6	ɱx
Aquam ad	4	ʒj

No. 2

℞ Ammonii carbonatis	066	ɱj
Oxymellis scillæ	33	ɱv
Vini ipecacuanhæ	13	ɱij
Syrupi tolutani	4	ɱvi
Aquam ad	4	ʒj

No. 3

℞ Ammonii carbonatis	066	gr. i
Terebeni	13	ɱij
Syrupi tolutani	33	ɱv
Pulveris acaciæ	13	gr. ii
Aquam ad	4	ʒj

The formula for the mixture he employs in whooping-cough is as follows:

	Gm. or c.c.	
℞ Potassii nitratis	06	gr. j
Ammonii bromidi	13	gr. ij
Ammonii lodidi	06	gr. j
Ammonii carbonatis	03	gr. ½
Tinctura belladonnæ	13	ɱij
Vini ipecacuanhæ	06	ɱj
Aquam chloroformi ad	4	ʒj

As the case progresses he freely increases the tincture of belladonna and the ammonium bromidi.

Indian Medical Gazette, Calcutta

May

29 Hematelkona: Significance of Blood Picture in Disease. A. W. Robertson.
30 Diphtheria in India. C. J. Fox.
31 Leukoderma in Burma. L. G. Fink.
32 Dilatation of Anus as Means of Resuscitation in Chloroform Anesthesia, with Suggestion for Its Use in Drowning. W. D. Keyworth.
33 Peculiar Pigmentary Condition. A. C. Munro.
34 *Leprosy, Its Bacteriology and Treatment. T. S. B. Williams.

34. **Leprosy.**—Williams produced two types of organism which are at first glance widely different: (1) A diphtheroid non-acid-fast organism, which is really a streptothrix. In a fairly typical culture of this organism one sees a few acid-fast bacilli, similar non-acid-fast dotted bacilli and large bacilli; filaments with terminal clubs, etc., in fact, the so-called involution forms of a diphtheroid organism and (2) an acid-fast streptothrix, generally similar to that obtained by Rost and Deycke. Williams says that to the observer unaccustomed to the vagaries of the streptothricæ, these two types of organism grown by him seem so absolutely distinct, as not to be worth consideration as the same. At one time he could not transfer the non-acid-fast form into the acid-fast form at will. However, by using pure culture of amebas he was able to show the effects of symbiosis. In a very short time he was able to demonstrate where a non-acid-fast diphtheroid bacillus culture was added to pure amebas, that, at the end of about forty-eight hours, the amebas were full of bacilli, which had become acid-fast. Thus it was demonstrated that the non-acid-fast organism, which in Williams' opinion was descended from acid-fast lepra bacilli, could regain its acid fastness in association with a living cell. It was further noticed that the association with the amebas had a distinct influence on the bacilli outside the cells. Many of those outside had become entirely acid-fast, and in others the dots had become acid-fast. Another strong piece of evidence connecting up the non-acid-fast diptheroid organism with the final acid-fast form, was the evidence provided by old cultures (two to three months old) of the non-acid-fast organism. Here it was found that the dotted bacilli tended to die out, while the so-called involution forms, which are in reality only broken-off portions of streptothrix, had become more prominent and in many cases distinctly acid-fast. The acid-fast streptothrix is Gram-positive. In the diphtheroid bacillus phase it is only the involution forms which are definitely Gram-positive. The dotted bacilli appear to vary. It will be seen then that Williams' claim is to have grown the non-acid-fast organism first and to have converted it into an

acid-fast organism. A vaccine prepared from the streptothrix has been used in fifteen cases with very gratifying results, although Williams refuses to consider the patients cured.

Dublin Journal of Medical Science

June

35 *Etiology and Treatment of Diabetes Mellitus. W. M. Crofton.
36 Modus Operandi of Vaccine Treatment. G. A. Stephenson.

35. **Diabetes Mellitus.**—Crofton does not think it possible in the majority of cases to cure diabetes, because when the patient comes under treatment the cells producing the essential substances are so far damaged that they cannot be restored, but he does think it possible to prevent, at any rate in many cases, the disease getting worse, and by means of giving the affected substance to enable the patient to live an ordinary life on an ordinary diet. It seems the patients who can recover completely are young people whose glycolytic mechanism can be restored if tided over the acute phase, just as acute nephritis can be completely recovered from.

Annales des Maladies des Org. Génito-Urinaires, Paris

May 15, XXIX, No. 10, pp. 865-960

37 Spontaneous Recovery in Acute Pyelitis. E. Chambard.
38 *Access to the Kidney. (Procédé rapide pour aborder le rein.) F. Cathelin.
39 Case of Cystic Ureteritis. D. Angier and C. Lepoutre.
40 Transvesical Prostatectomy on Patient Cystostomized for Nine Years. M. Patel and G. Cotte.

38. **Access to the Kidney.**—Cathelin utilizes the two weak points in the abdominal wall in the lumbar region, the triangle of Petit and Grynfelt's irregular quadrilateral gap in the muscular wall which are easily palpated by the yielding of the wall. Grynfelt's gap is bounded in front by the posterior border of the internal oblique muscle, behind by the external border of the iliocostalis, above by the twelfth rib in front and behind by the inferior border of the inferior serratus posticus. The floor of the opening is formed by the thin aponeurotic membrane of the fascia transversalis. This gap in the muscular wall is just over or below the inferior pole of the kidney and thus permits ready access to it. Another point in Cathelin's technic is that he clamps the vessels just as they enter the kidney, not above. He has not had a mishap in his fifty-nine operations on the kidney in the last eighteen months, all the patients promptly recovering. Petit's triangle is in the first layer of the muscles of the back, but Grynfelt's irregular gap is in the deep layer. The article is illustrated.

Archives des Maladies du Cœur, Etc., Paris

June, IV, No. 6, pp. 337-416

41 Pulsation in the Pulmonary Veins with Mitral Insufficiency. (Pouls veineux du poumon dans les lésions mitrales.) G. Buiciiu and D. Danielopolu.
42 The Atrioventricular Bundle. (Le faisceau atrio-ventriculaire dans le cœur humain.) G. H. Monrad-Krohn.
43 The Blood-Plate Count in Health and Disease. (Etude clinique et expérimentale sur les variations numériques des globulins.) M. Aynaud.

Archives de Médecine des Enfants, Paris

June, XIV, No. 6, pp. 401-480

44 *Hepatization of the Lung in Young Children. (L'hépatisation lobaire dans la première enfance.) A. d'Espine and Mallet.
45 Curable Forms of Acute Tuberculosis in Children. E. C. Aviragnet and L. Tixier. Commenced in No. 5.
46 *Resistance to Muscular Fatigue of Children Under Two and One-Half Years. A. Lesage and H. Collin.
47 *Atypical Measles. (Cas anormaux de rougeole.) G. Baldini.

44. **Pneumonia in Children.**—Mallet and d'Espine report four cases of wandering pneumonia in children between 5 and 7, the focus of pneumonia shifting around during the week the disease lasted. In three other cases the children were between 8 months and 2 years old and bronchopneumonia was accompanied by lobar fibrinous pneumonia followed by a follicular enteritis, the latter proving fatal. In two other similar cases the intestinal phase failed to develop and the infants recovered. The exceptional gravity of lobar hepatization in infants is probably due to generalization of the pneumococcus infection, with complications on the part of the kidneys or intestines.

46. **Infants' Resistance to Muscular Fatigue.**—Lesage and Collin state that they found it possible to have children under 2½ years hold their arms extended above their heads for a long time without any signs of fatigue. If the arms are raised and held in this position the child continues to hold them thus alone while its attention is diverted. Some of the children held their arms up thus spontaneously for five, twelve and even for thirty minutes without any sign of weariness or discomfort. They seem to forget all about their arms. Adults, idiots and imbeciles lack this resistance to fatigue and Lesage and Collin theorize to explain it in infants as due to the phase of the evolution of the nervous system at this age.

47. **Atypical Measles.**—In one of the five severe and atypical cases reported the measles was of a hemorrhagic form. In another case the measles seemed to be mild, but the temperature ran up to 41.3 C. (106.34 F.). In another case the measles developed during an attack of pneumonia, but the child recovered; a sister of this child contracted the measles which came on with epistaxis, a purpuric eruption and fever above 40 C. (104 F.) but ran a mild course.

Bulletin de l'Académie de Médecine, Paris

May 30, LXXV, No. 22, pp. 625-649

48 Dragging Down and Twisting of the Larynx as Sign of Aneurysm of the Arch of the Aorta. (Abaissement, déviation et latéro-torsion du larynx comme signe d'anévrisme de la crosse aortique.) E. Boinet.

June 6, No. 23, pp. 641-654

49 Progress of Hygiene in West Africa Under French Rule. Wurtz.

Presse Médicale, Paris

June 14, XIX, No. 47, pp. 493-500

50 Cysts and Cancer of the Nipple. (Kystes cliniquement uniques et cancer de la mamelle.) P. Reclus.
51 Technic of Interpretation of Sphygmomanometer Findings. (Les conditions essentielles des observations sphygmomanométriques.) A. Martinet.

Semaine Médicale, Paris

June 21, XXXI, No. 25, pp. 289-300

52 Present Conception of Sugar Destruction in the Body. (Etat actuel de la question de la glycolyse.) R. Lépine.

Archiv für Gynaekologie, Berlin

XCIV, No. 1, pp. 1-262. Last indexed May 20, p. 1516

53 Vessels in Uterus During Pregnancy. (Die Gestationsveränderungen der Uterusgefässe.) O. Büttner.
54 *The Phenomena of Pregnancy. (Ueber Gestationserscheinungen.) F. A. Kehrer.
55 Bacteriology and Histology of Febrile Myoma of the Uterus. A. Sitzenfrey.
56 *Microscopic Retrospective Diagnosis of a Pregnancy. (Diagnose der abgelaufenen Schwangerschaft.) G. Schickele.
57 Rights of the Unborn Child. (Wandlungen in der Bewertung des ungeborenen Kindes.) H. Goeckel.
58 *Puerperal and Postoperative Thrombosis and Embolism. H. V. Klein.

54. **Phenomena of Pregnancy.**—Kehrer discusses in particular the internal secretion of the ovaries and its influence on the uterus, etc., showing that the phenomena of pregnancy may be classed as the purely fetal and the purely maternal, the latter in the double form of the chemical action of the ovarian hormone and the chemical action of the products of the fetal metabolism.

56. **Microscopic Retrospective Diagnosis of Pregnancy.**—Schickele gives the microscopic findings in six typical cases of a dubious history as to a preceding pregnancy. In several of the cases the discovery of chorionic villi confirmed the diagnosis, but the finding of hyaline vessels with ectoderm cells seems to be specific of a preceding pregnancy, according to his experience. In some cases there was nothing to suggest that the woman had ever been pregnant, but investigation of the history always confirmed the assumption on this basis. Even after all the other tissues revealing a pregnancy have disappeared, the hyaline structure of the vessel walls and the ectodermal cells in them are sufficient to sustain the assumption of a pregnancy, he says, and it is superfluous to continue the search for chorionic villi.

58. **Puerperal and Postoperative Thrombosis and Embolism.**—Klein's monograph fills 146 pages and, besides an extensive review of the various theories and views on the subject, it presents the lessons learned from ten years' experience at the university clinic at Vienna in charge of Wertheim. There was thrombosis in seventy-six of the 34,951 maternity cases during this period, over 40 per cent. being in the normal thirty-one cases and over 50 per cent. in the forty-five pathologic cases. There were seventy cases of postoperative thrombosis during the period, among 5,851 gynecologic operations, 56 per cent.

consecutive to a laparotomy. In a third of all the postoperative thrombosis cases, the operation had been for removal of a uterine myoma. He accepts that thrombosis may be anticipated in 33 per cent. of all the myoma cases, especially when they are removed by the abdominal route. The details of the cases are summarized for comparison, and attention is called to the fact that postoperative thrombosis has dropped from 2 to 0.5 per cent. since the women are allowed to leave the bed early. Very mild postoperative embolism developed in two of the women allowed to get up early, while three fatal cases were observed among the women not allowed to get up until after the routine period. Analyzing the total fifteen cases of postoperative fatal pulmonary embolism, Klein thinks that there is a possibility that immediate exposure of the pulmonary artery according to Trendelenburg's suggestion might have saved the women in the few cases in which death did not occur for twenty to thirty minutes after the onset of the serious symptoms; one of the women in this group was an unusually robust young woman. At the same time, he remarks, the women having just passed through a major operation, their resisting powers are at an exceptionally low ebb. The tincture of iodin sterilization of the skin is an aid to rapid preparation for the operation, and in such cases there is nothing to lose and everything to gain. In conclusion he tabulates the statistics from various clinics to show the frequency and percentage of puerperal and postoperative thrombosis and embolism. In another table Klein lists their proportional frequency with his various major operations. Among 560 operations done under spinal anesthesia there were ten cases of thrombosis with one fatal embolism, but in a corresponding series of operations, under general anesthesia, there were likewise ten cases of thrombosis, but there were four cases of fatal embolism. These figures are in favor of spinal anesthesia, which avoids the injurious action of the general anesthetic on the heart. It has been Klein's experience that the elderly bear the spinal anesthesia exceptionally well. Operations requiring an hour and twenty minutes under spinal anesthesia in women between 60 and 70 without any evil by-effects were by no means uncommon. Raising the pelvis probably induces a certain predisposition to thrombosis, as also too tight dressings and meteorism. The Mahler pulse, that is, increased pulse-rate with normal temperature was observed in two patients; at the onset of the thrombosis in one case and as a premonitory symptom in the other, the pulse running up in a series of peaks and keeping from the eighth to the twenty-sixth day after the operation at about 116; the first signs of thrombosis became evident about the fifteenth day. In some other cases the pulse-rate did not correspond with the temperature. An important sign of incipient thrombosis is the larger diameter of the leg on the threatened side, especially when the left leg is even a little thicker through than the right. In prophylaxis the patient must be encouraged to move about and breathe deep. Ten or fifteen deep respirations every hour strengthen the lungs exhausted by the anesthetic. Systematic movements of the legs, bending them at knee and hip-joint and keeping up the heart with heart tonics are also important in prevention. Klein does not regard infection as a necessary preliminary to thrombosis, although it is unmistakably a favoring factor; in seven cases infection of the wound was evidently responsible. In 20 per cent. of all the cases of thrombosis there was fatty degeneration of the myocardium as also in 28 per cent. of all the cases of puerperal thrombosis. The age has nothing to do with this as some of the younger patients presented this degeneration of the myocardium. Klein regards this fact as testifying to the connection between the general anesthesia and the fatty degeneration on one hand and the operation on the other.

Archiv für Kinderheilkunde, Stuttgart

LV, Nos. 5-6, pp. 321-483. Last indexed April 29, p. 1300

59 Case of Transposition of the Aorta and Pulmonary Artery. (Ueber Transposition der grossen Schlagadern des Herzens.) Z. v. Bokay.
60 *Treatment of Phlegmonous Diphtheria. N. R. Blumenau.
61 *Disadvantages of Institutional Care for Infants. (Funfjährige Erfahrungen im Kinderasyl.) J. Cassel.
62 Echinococcus Disease of the Lungs. W. G. Archangelsky.
63 Epidemic of Measles Plus Diphtheria. (Mitteilungen über eine Masern- und Diphtherie-Epidemie.) P. Auerbach.

60. **Phlegmonous Diphtheria.**—Blumenau states that 265 patients with phlegmonous diphtheria were admitted to the Children's Hospital at St. Petersburg, 1895-1908, and sixty-seven died during the first day. The majority of the children were about 5 years old; the mortality decreases with the age, from 100 to 16.6 per cent. Early vomiting is an unfavorable sign, generally being followed by paralysis of the heart. Nephritis was observed in nearly all the cases from the first, but it proved mild. Under serotherapy the throat cleared by the beginning of the second week, but the heart symptoms generally developed at this time. The whole syndrome indicates a specific, extremely toxic form of diphtheria, and antitoxin should be given freely and in a way to surround the enemy most rapidly and effectually, he says, that is, by the intravenous route. The various factors involved in the syndrome are discussed and the literature reviewed.

61. **Disadvantages of Institutional Care of Infants.**—A number of points are emphasized in this review of five years of medical supervision of a foundlings' asylum. Attention is called to the lack of exercise of infants in an institution. They do not get the chance to move their limbs, sit up, creep, etc., as in the home, and they lack the mental stimulus of the home environment. The institutional life is monotonous and the infants are quiet and sober. The infants eat at regular periods and do not develop the appetite of children in the home, so that it is much harder to accustom them to a mixed diet. On the whole, Cassel declares, an institutional life for young children is a prison life. The result is a "hospitalism," and he insists that an institution should be regarded only as a temporary makeshift.

Archiv für Verdauungs-Krankheiten, Berlin

June, XVII, No. 3, pp. 241-394

64 *Retention of Stomach Contents with Unimpaired Motor Functioning. (Ueber die diagnostische Bedeutung alimentärer Restproben bei ungestörter Magen-Motilität.) L. Bamberger.
65 *Determination of Urobilinogen and Urobilin and Their Clinical Importance. (Nachweis des Urobilinogens und des Urobilins und die klinische Bedeutung dieser Körper.) E. Münzer and F. Bloch.
66 *Ultimate History of Ninety-One Patients with Gastric Achylia. (Ueber Achylia gastrica und ihre Beziehung zur Motilität; sowie über das Schicksal von 91 Achylikern.) H. Ley.
67 *Technic and Clinical Importance of Proctosigmoidoscopy. (Rektoromanoskopie.) L. v. Aldor.
68 Gastric Ulcer in Japan. G. Yukawa.

64. **Retention of Food with Unimpaired Gastric Motility.**—Bamberger found 4 or 5 c.c. of relics of food in the fasting stomach in 36 per cent. of seventy-five persons examined, that is, traces of food visible to the naked eye, when the motor functioning of the stomach seemed to be normal. This retention was never found, however, in persons known to be absolutely healthy. There was always something wrong in the stomach or elsewhere; the gastric mucosa was uneven from cicatricial changes, or there was hypersecretion or some gallstone trouble. Macroretention, as Bamberger calls it, is therefore only conditionally reliable as a sign of gastric ulcer or cancer; it may occur even with affections outside of the stomach. Microscopic retention was evident in 62.5 per cent. of the healthy persons examined and in 60 per cent. of the patients with cholelithiasis but free from stomach trouble. The findings confirm the assumed connection between hypersecretion and gastric ulcer. Over 20 c.c. of gastric juice was a frequent finding in the fasting stomach in the ulcer cases.

65. **Urobilin in the Urine.**—Münzer and Bloch tabulate the findings with various tests for determination of the bile pigments in the urine as applied to five persons with various blood diseases, six with gastric or intestinal affections and eleven with gall-stones or jaundice or both. The results show that urobilin is not eliminated as such but as urobilinogen, and urobilin is formed out of this as the urine stands exposed to the daylight. It occurs only in traces in health; larger proportions seem to be encountered only with more or less derangement of the liver cells. Urobilinogen may be totally absent in the urine in case of total obstruction of the bile ducts and in mild liver affections accompanied by much jaundice, although bile pigment may pass into the urine. By using the alcohol-ether extract technic, it is possible to dispense with

the preliminary removal of indol and skatol with ligroin, otherwise necessary to prevent error. Münzer and Bloch found Ehrlich's benzaldehyd reaction the best technic for detection of urobilinogen in fresh urine.

66. **Gastric Achylia.**—Ley's experience conflicts with Einhorn's assertion that the secretion of mucus is necessarily defective in simple achylia. Ley reports the results of tests on twelve achylic patients and five controls given a test oatmeal porridge meal, and six achylics and five controls given 25 c.c. of scraps of meat in suspension in 250 gm. fluid. In a further series of tests sixteen achylics and four controls were examined afterward with the Roentgen-rays. The results of the tests all tend to disprove the assumption that the motor functioning of the stomach is augmented in case of gastric achylia. The achylia generally persists unchanged throughout life. The evidence further disproves the assumption that achylia may lead to pernicious anemia; the reverse sequence is more liable to be the case. Ley's experience with 300 cases of gastric achylia, including ninety-one cases traced to date, does not indicate any special predisposition to gastric ulcer or cancer in persons with achylia. The disturbances from the achylia had existed for six months or more in all the cases, and there was a suspicion of cancer in fourteen, confirmed by the outcome in the majority, but these patients were all in the cancer age. Of the ninety-one achylics whose history was traced, 28.5 per cent. have succumbed since to various causes, the majority being over the age of 50 and of the hard working classes. Over 50 per cent. of the surviving sixty-five seem to be free from disturbances on account of their achylia when they pay attention to their diet, some having no disturbances, even without dieting. Four have diarrhea and fourteen constipation; twenty-two of the patients have increased in weight during the six years since they were under treatment. Only one was between the ages of 15 and 20, two between 20 and 25, seven between 25 and 30, and seventy-three were between 30 and 60. All but 23 per cent. complained of loss of appetite; 42 per cent. had constipation and 15 per cent. diarrhea; anemia was encountered in only three of the ninety-one patients; hypermotility was evident in forty-five, and atony in sixteen. In forty-six cases the preceding diagnosis had been chronic gastritis.

67. **Proctoscopy.**—The technic for direct visual inspection of the rectum and sigmoid flexure has been improved by von Aldor, he claims. His graduated tube is in three parts which permits the flexure to be examined after the rectum has been inspected without the necessity for introducing the obturator again or changing the tube. A further advantage is that the distance between the inspecting eye and the lesion is merely the distance from the anus to the lesion as all superfluous length of the tube is avoided by this arrangement of the tube in three segments. Von Aldor says that the American device to secure this advantage is complicated and expensive. He emphasizes anew the fact that lesions in the lower segment of the bowel may develop and exist for a long time without appreciable subjective disturbance. The recurring slight hemorrhages are usually what brings the patient first to the physician for relief from the supposed hemorrhoids. The important point which von Aldor specially emphasizes is that malignant disease in the lower rectum generally develops in connection with hemorrhoids. The bleeding piles mislead both patient and physician to neglect further examination of the region above. Von Aldor also emphasizes the fact that chronic proctitis in most cases is of a hemorrhagic nature and accompanied by hemorrhoids. Hemorrhage is comparatively rare with what he calls proliferating proctitis (Strauss calls it "grey irritation pyramids" or "hemorrhoidal teeth"). The greatest triumphs of rectosigmoidoscopy are in the early detection of incipient cancer at the sigmoid flexure, and von Aldor reports a case of the kind in which a man of 43 consulted him on account of constipation which had gradually become more severe during the last two years. A few years before he had had bleeding hemorrhoids and he had lost over 10 pounds in weight during the last few months. Nothing pathologic was found anywhere until the proctoscope revealed carcinomatous changes at the sigmoid flexure. There were adhesions to the bladder and appendix, and a pararectal abscess. An operation attacking the lesion from above and below, resecting 45 cm. of intestine, restored the patient to apparently complete health and he has gained nearly 40 pounds in weight during the five months since. Extreme constipation in an adult male should always compel proctoscopy.

Berliner klinische Wochenschrift

June 12, XLVIII, No. 24, pp. 1069-1112

69 Anaphylatoxin. F. Neufeld and H. Dold.
70 *Pulmonary Tuberculosis in the Aged. (Die tuberkulöse Lungenphthise alter Leute.) C. Hart.
71 Two Cases of Atrophy of One Lung. A. Döblin and Biernath.
72 *Differential Diagnosis Between Pleurisy without Effusion and Intercostal Neuralgia. E. Schepelmann.
73 *Symptomatology of Pleurisy. A. Sternberg.
74 Graphic Registration of Respiration Sounds. (Aufzeichnung der Atmungsgeräusche.) H. Gerhartz.
75 Comparison of the Electrocardiograms Obtained by the Filament Galvanometer and the Oscillograph. T. Groedel and Meyer-Lierheim.
76 The Adrenals in Atrophic Cirrhosis of the Liver. (Die feine Struktur der Nebennieren des Menschen bei der Laennec'schen Cirrhose.) M. Dominici.
77 Salvarsan and Hyperideal. P. Ehrlich.

70. **Pulmonary Tuberculosis in the Elderly.**—Hart comments on the scant attention paid to this subject, and yet the clinical aspect of tuberculosis in the elderly is of a special type. Besides its chronic character and the tendency to heal, it is distinguished by the slight tendency to dissemination, owing to various local causes. He discusses them in detail, emphasizing that the prospects of healing of a tuberculous apical focus are best in the elderly.

72. **Differential Diagnosis of Intercostal Neuralgia and Pleurisy Without Effusion.**—Schepelmann says that when the trunk is bent over to the side the seat of the pain, the pain increases in case of intercostal neuralgia, while with pleurisy the pain increases when the trunk is bent over to the sound side. He explains the mechanism of this but warns that sometimes both the pleura and the nerve are inflamed in which case nothing is to be learned from this sign. Muscular disturbances may be differentiated by the painfulness of any and all movements of the trunk and arms and possibly by the tenderness of the muscles involved, the frequent change in the localization of pain and the improvement under application of the induced electric current.

73. **Muscular Symptom of Pleurisy.**—Sternberg has noticed for years that persons with pleurisy without effusion complain of pains in the muscles on the affected side. A certain group of muscles become painful with every acute attack or exacerbation, and the degree of painfulness increases and declines with the intensity of the pleuritic process. If the patient crosses his arms far enough to place the palms on the opposite shoulders, this flattens out the intrascapular space, and the patient experiences pain when the examiner's thumbs are pressed in on the rhomboideus muscle on the side affected. The trapezius, pectoralis and the infraspinatus may also be involved. There is no pain when a fold of the skin is squeezed; the typical painfulness is probably the result of a toxic myositis from the same toxic agent which is causing the inflammatory process in the pleura. Sternberg thinks that this explanation throws light also on Pottenger's symptom, the rigidity of the muscles over the disease focus, and on the atrophy of the muscles with a unilateral tuberculous process. The causal connection between this atrophy and preceding attacks of pleurisy with myositic changes is shown by the fact that the atrophy affects always the same group of muscles which give the pain reaction in pleurisy. Sternberg's extensive experience indicates that this reaction has considerable diagnostic importance, both for the existence and the progress or retrogression of inflammatory processes in the pleura.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 20, XLI, No. 18, pp. 625-656

78 Typhoid Epidemic in Poorhouse. (Zur Epidemiologie und retrospektiven Blutdiagnostik des Typhus abdominalis.) A. Schüpbach.
79 Pupil Disturbances. (Verschiedene Pupillenstörungen.) A. Vogt.

Deutsche medizinische Wochenschrift, Berlin

June 15, XXXVII, No. 24, pp. 1105-1152

80 *Serodiagnosis of Epidemic Poliomyelitis. E. Müller.
81 *Immobilization in Treatment of Epidemic Poliomyelitis. (Behandlung der frischen Kinderlähmung durch Ruhigstellung.) E. Mayer.
82 *Thrombosis of Femoral Veins After Intestinal Catarrh. H. Strauss.
83 *Determination of Uric Acid in the Blood. (Methode zum Nachweis und zur quantitativen Bestimmung von Harnsäure in relativ kleinen Blutmengen.) A. Kowarsky.
84 *Peritonitis from Perforation of Gall-Bladder. R. Bertelsmann.
85 Internal Urethrotomy. F. Hübotter.
86 Streptococcus Responsible for Most Cases of Chronic Urethritis. A. v. Wahl.
87 Two Cases of Herpes Zoster in Connection with Kidney Disease. A. Rosenbaum.
88 Prophylaxis and Treatment of Decubitus. A. Zweig.

80. **Serodiagnosis of Epidemic Poliomyelitis.**—Müller does not think that the method which he has found successful has much importance for the clinic as it requires inoculation of monkeys, but it promises to throw light on a number of scientific questions, such as whether there are germ-carriers for this disease as for typhoid, and whether the seroreaction would be positive in the apparently healthy persons in the environment of the sick, also whether the disease affects children exclusively only because adults have acquired immunity to it. The method will also prove useful to differentiate dubious sporadic cases. The antibodies giving the reaction persist for years and decades after the infection.

81. **Treatment of Paralysis After Poliomyelitis.**—Mayer reports two cases in which treatment was applied on the principle of absolute repose for the muscles to prevent development of paralysis, similar to the treatment of spondylitic paralysis. The results were extremely satisfactory in his cases and he urges the application of the principle on a broader scale.

82. **Femoral Thrombosis After Intestinal Catarrh.**—Strauss reports three cases of thrombosis on one side with severe colitis. The left femoral vein was affected in each case and no other reason for the development of the thrombosis, except the bowel trouble, could be discovered. His experiences confirm those reported by Riedel, summarized in THE JOURNAL, July 8, page 170.

83. **Determination of Uric Acid in the Blood.**—Kowarsky has modified the murexid test for uric acid, so that it can be applied for determining the amount of uric acid in even so small an amount as 10 c.c. of blood. The uric acid is precipitated by ammonium chlorid, concentrated by centrifuging and then crystallized out by treating the sediment with a few drops of concentrated hydrochloric acid. In gout there is from 0.2 to 0.6 gm. in 10 c.c. of blood, and it is easily identified by the murexid test applied to the crystals. The simple technic differentiated gout without trouble in the twelve clinical cases in which the method has been applied to date, while none of the controls gave a positive reaction. On addition of 0.2 mg. uric acid to normal blood the findings were identical with those in persons with pronounced tophi. (For the murexid test the substance is treated with nitric acid, evaporated and moistened with ammonia water. Uric acid gives then a purple color as murexid is formed.)

84. **Peritonitis from Perforation of the Gall-Bladder.**—Bertelsmann reports three cases of this kind which he has encountered during the last two years, all the patients recovering. His experience confirms the great difference in the outcome between the cases in which perforation occurs in the course of gangrenous inflammation and those resulting merely from erosion from a calculus. Two of the cases were the most severe peritonitis which he has ever known to have a favorable termination. Bertelsmann ascribes this outcome to the careful rinsing out of the region with salt solution and subcutaneous infusion of 2 liters and intravenous of 4 liters of the salt solution in the course of two hours, the last 2 liters containing a little epinephrin. The collapse he ascribes to the bleeding away into the peripheral vascular system, especially into the splanchnicus domain. The apparently quite moribund patient, the radial pulse gone, respiration arrested, revived slowly as soon as 250 c.c. of the solution with the epinephrin had been infused and by the end of the infusion the pulse was full and strong and the patient had recovered consciousness. The condition had been so serious, the collapse so severe, that Bertelsmann almost wished that the family would refuse the operation which he makes it a principle always to insist on no matter how desperate the condition. The patient was soon restored to health. In another case the gall-bladder was so packed with 420 stones that there was no room for the bile and the perforation did not cause much disturbance. Bertelsmann's cases teach the necessity for thorough cleansing out of all the bile that has found its way into the abdominal cavity and, further, that the peritoneal collapse which this is liable to induce can be successfully combated by copious saline infusion before and during the operation.

Deutsche Zeitschrift für Chirurgie, Leipsic

May, CIX, Nos. 5-6, pp. 525-626

89 *Surgery and Pathology of the Diaphragm. H. Gross.
90 Experimental Research on Tuberculosis of the Thyroid. Y. Shimodaira.
91 Operability of Hypophysis Tumors. E. Bode.
92 Subcutaneous Fat Tissue Necrosis. (Zur Kenntnis der subkutanen Fettgewebsnekrose.) M. Heyde.
93 Partial Rupture of the Bladder. (Inkomplete Harnblasenruptur.) M. Cohn.
94 *Carbon Dioxid Snow in Treatment of Angiomas and Nevi. (Anatomische und klinische Beiträge zur Behandlung der Angiome und Naevi mittels Kohlensäureschnee.) A. Salomon.
95 Experimental Production of Gastric Ulcers by Injury of Nerves. (Ueber die experimentelle Erzeugung von Magengeschwüren durch Nervenläsionen.) K. Kawamura.
96 Two Loops in Incarcerated Hernia. (Weiterer Beitrag zu der Frage der "zwei Darmschlingen im eingeklemmten Bruch.") C. Lauenstein.
97 *Injection of Emulsion of Periosteum in Treatment of Pseudoarthrosis. J. Sasaki.
98 Conservative Operations on the Kidneys. J. Fabricius.

89. **Surgery of the Diaphragm.**—Gross has had occasion to operate on the diaphragm in two cases of circumscribed tuberculosis of its muscular portion and in a case of sarcoma involving the diaphragm, lung, pericardium and spleen and requiring the most extensive resection of the diaphragm on record. The patient, a rural letter-carrier, 30 years old, was soon dismissed from the hospital in good condition. He died nine years later from cachexia and paralysis but whether due to recurrence or metastasis is not known. The extensive gap in the diaphragm was easily sutured but the diaphragm did not resume its excursions as long as the man was under observation. Evidently there was a reflex paralysis, and the repose thus induced favored the healing. Excision of the tuberculous focus in the two other cases proved a simple matter and the outcome has been a permanent cure.

94. **Treatment of Angiomas and Nevi with Carbon-Dioxid Snow.**—This communication from Bier's clinic at Berlin reports the application of Pusey's method in 250 cases of angioma or nevus. The permanent cure was confirmed by later examination in ninety-three cases. Salomon states that nothing can compare with the action of the carbon-dioxid snow except the effect of radium, the *x*-rays and the mercury quartz lamp but the dioxid treatment is far simpler and less expensive than either of the others. It acts by destroying the skin and upper layers of the subcutaneous angioma tissue, leaving the layer of epithelium intact. The method consequently is applicable only to simple, superficial angiomas, diffuse red pigmented nevi and brown nevi and teleangiectasia. It is not adapted for plexiform angiomas and cavernomas. For the latter, injections of alcohol according to Schwalbe have proved effectual in his experience; if this method is too slow, secondary excision is bloodless and free from danger. If the cavernoma extends into the cutis, the carbon-dioxid snow may be combined with the alcohol injections.

97. **Treatment of Pseudarthrosis with Injections of Emulsion of Periosteum.**—Sasaki declares that the results of his experimental research in this line justify the application of the method in the clinic. He advises taking the periosteum from the patient for the purpose, from the tibia, for instance. If this is not practicable, the periosteum from an amputated limb might be used or from fresh cadavers. The periosteum from infantile bones should be given the preference. The method is applicable, Sasaki says, when callus formation is delayed, for pseudarthrosis, in plastic operations, especially on the nose and jaw, and for all operations to close defects in bones.

Medizinische Klinik, Berlin

June 11, VII, No. 24, pp. 913-954

99 *Tuberculosis and the Nervous System. Voss.
100 Special Diets in Hospitals. (Die Küchenfrage in Kliniken und Krankenhäusern.) A. Schmidt.
101 Traumatic Neurosis and Atrophy of the Bones. (Traumatische Neurose und Sudecksche Knochenatrophie.) E. Bibergeil.
102 Carbohydrate Courses in Diabetes. M. Klotz.
103 Importance of Psychotherapy in Spa Practice. (Bedeutung der Psychotherapie in der balneologischen Praxis mit bes. Berücksichtigung der psychopathisch-anämischen Zustände in der Pubertät.) J. Krone.
104 Determination of Acidity of Gastric Juice. L. Michaelis and H. Davidsohn.
105 Causes of Irregular Action of Drugs, Especially in Tablet Form. E. Seel and A. Friederich. Commenced in No. 23.
106 Behavior of the Scaphoid Bone of the Tarsus as the Hand Is Flexed. (Verhalten des Navikulare bei Flexonsbewegungen der Hand.) H. Virchow.

99. **The Nervous System in Tuberculosis.**—Voss remarks that while there is no typical tuberculous psychosis yet the criminal responsibility of consumptives may often be regarded as attenuated. Mircoli declares that the tuberculous in general should be regarded from the standpoint of attenuated responsibility, and Fishberg has called attention particularly to the cases in which tuberculous individuals, despairing of recovery, lose all regard for the conventionalities and give free vent to their envy and rage. The psychic condition in tuberculosis, Voss continues, is responsible for the vogue of certain remedies; the suggestive power of the new and the waning faculty of judgment combine to delude the patients into false estimation of the efficacy of new remedies. The pains with incipient caries of the upper spine may lead to the mistaken assumption of a pure occipital neuralgia. Caries of the ribs induces intercostal neuralgia; tuberculous hip-joint disease also induces a typical pain radiating down toward the knee on the inner surface of the thigh. Wohlauer has recently pointed out that scoliotic sciatica may be the first symptom of lumbar spondylitis. Investigation of the entire spine is extremely important in all cases when a young patient tires readily and has neuralgiform pains in the back with exaggeration of the tendon reflexes and variable hyperesthesias. A search should be made for signs of multiple sclerosis, changes in the fundus of the eye, nystagmus, vertigo, etc. Paralysis of the recurrent nerve from compression by tuberculous bronchial glands is not infrequent, and Voss has seen paralysis of the posterior thoracic nerve follow removal of tuberculous glands extending down into the supraclavicular fossa. With a tubercle in the brain the prognosis is rendered graver by the frequent multiplicity of the lesions as in a case described in which a tumor in the right motor region was diagnosed and removed with apparent recovery, but the patient died nine months later from tubercles elsewhere in the brain. Voss discusses further tuberculous neuritis and the increased irritability of the heat centers as explaining the fluctuations in the temperature. Claude insists that epileptics are peculiarly resistant to tuberculosis, but Voss has had no opportunity to study this question.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 2, pp. 169-342. Last indexed June 3, p. 1695

107 *Acute Dilatation of the Stomach. (Akute Magenerweiterung.) H. Kuru. (Bemerkung zum Aufsatze, von Haruzo Kuru.) B. Naunyn.
108 *Postoperative Complications on the Part of the Lungs. N. Spassokukotzky.
109 *Appendicitis and Pregnancy. (Appendicitis und Gravidität.) H. H. Schmid.
110 *Injury of the Heart from Orthopedic Corset. (Ueber Schädigungen des Herzens durch dauerndes Tragen fester Stützkorsetts.) O. Brosamlen.

107. **Acute Dilatation of the Stomach.**—Kuru gives the details of four cases from his own experience and of eleven of which reports have been published in Japan by other surgeons. In the total fifteen cases the acute dilatation developed without a preceding operation or anesthesia in five, once following contusion of the stomach and in the others from excess in eating during convalescence from typhoid or in the course of protracted suppuration or in phthisis. Two of these patients died while four died of the ten patients whose acute dilatation followed an operation under general anesthesia, laparotomy, nephrotomy or castration. The dilatation, he remarks, may result from direct injury of the stomach or by reflex action from some remote irritation, or by injury of the nerves (combined with severe heart disturbances), either from autointoxication or from exhaustion of the chromaffine substance of the adrenals which seems to be necessary for regulating the action of the stomach and heart. The dilatation may result further from obstruction of the gastro-intestinal tract either by tamponing in the vicinity of the pylorus, kinking of the intestine, valvular occlusion of the cardia or arteriomesenteric occlusion. No case of the latter kind has yet been reported in Japan. The total mortality in these Japanese cases was 40 per cent., and 50 per cent. among the laparotomy cases. Eleven of the patients were men. In all the cases washing out the stomach was the main reliance. When the trouble is due to abnormal fermentations or overloading, this has a direct curative action, and even when the trouble is of other origin, it has a very useful palliative effect, except immediately after an operation on the stomach itself, in which case faradization is preferable. Tomita applied it in his case of this kind with success. Kuru did not realize much benefit from changing the position of his patients, although he admits that this would certainly put an end to the vicious circle in cases of genuine arteriomesenteric occlusion. In conclusion he suggests that injections of epinephrin and physostigmin and saline infusion might be tried; epinephrin is especially indicated when there is reason to assume that the severe symptoms are the result of acute exhaustion of the adrenal cortex.

Naunyn comments on the scant attention paid to his statements years ago in regard to the relation between fermentation in the stomach and acute insufficiency of this organ. Minkowski and Ehret have since presented evidence to sustain the importance of fermentations in the etiology of acute dilatation of the stomach and the value of lavage of the stomach in combating it.

108. **Postoperative Complications on the Part of the Lungs.**—Spassokukotzky concludes from analysis of the cases at the St. Petersburg gynecologic institute in charge of Professor Zeidler, that postoperative complications on the part of the lungs are only rarely of embolic origin. When this is actually the case the symptoms and course are unmistakably characteristic. By far the large majority of postoperative complications are due to a variety of causes, especially the closeness of the air in the rooms where the patients are convalescing, the abnormal physiologic conditions for the lungs during the first few days after laparotomies, the patients avoiding normal breathing as this makes the wound hurt, and last but not least the chronic irritation of the upper air passages from tobacco. The effect of the general anesthetic is not such a predominant factor in the development of postoperative pulmonary complications as has hitherto been assumed. Even when the convalescent is in a room with apparently ample ventilation, it must not be forgotten that the air is contaminated from the crowded ward and corridor near by and that the visits of professors and students exhaust the air. The connection between the contamination of the air and the development of the pulmonary postoperative complications is evident further in the prevalence of these complications during the months when the windows and doors are kept closed. The proportion of carbon dioxid in the rooms was found to be from 2 to 2.5 per 1,000, more than double Pettenkofer's limit for respirable air. The conclusions of the article are encouraging, as the factors incriminated are avoidable to a certain extent.

109. **Appendicitis and Pregnancy.**—Schmid has been able to collect from the literature 458 cases of appendicitis during a pregnancy to which he adds twenty-eight unpublished cases from von Eiselsberg's clinic at Vienna. In over half the cases the pregnancy was the first or second and the appendicitis generally occurred during the third to the sixth month; in sixty-two cases it did not develop until during the puerperium. Only 308 of the women were given operative treatment. The mortality in the total 486 cases was shockingly high as Schmid shows in his tables; every effort should be made to improve the prognosis by early differentiation and an early operation. The general practitioner, he declares, must make a special study of the clinical aspect of appendicitis developing during a pregnancy or childbed so as to recognize it in time and have the woman transferred to an institution where she can be under constant supervision. Schmid's statistics indicate that

1 out of every 1,000 pregnant women has appendicitis, and that 2.5 per cent. of all the women with appendicitis are pregnant. The fact of the pregnancy does not seem to favor the development of an appendicitis for the first time, but it favors recurrences of appendicitis. The mild forms of appendicitis run their course about the same in and outside of a pregnancy, but severe cases are influenced in a most injurious manner by an abortion or normal delivery. The pregnancy is generally interrupted by the participation of the peritoneum in the appendicitic process if the focus is not excised at once. The relics of the appendicitis are liable further to interfere with normal involution of the uterus and induce adhesions with resulting sterility or habitual abortions or extra-uterine pregnancies or leave a tendency to uncontrollable vomiting. Interruption of the pregnancy as the sole means to influence the appendicitis is useless and directly harmful. When appendectomy has been done shortly before normal delivery, to protect the young cicatricial tissue it is better to deliver the child by Cesarean section. If the peritoneum is much involved in the appendicitis or abortion is impending, after appendectomy and walling off the abdominal cavity, it may be wise to empty the uterus and not drain until after this has been done. Brief summaries of the entire series of 476 cases are appended, especially to show the occasional difficulty in differentiating appendicitis when it is masked by the conditions of the pregnancy or puerperium.

110. **Injury of Heart from Orthopedic Corsets.**—Brosamlen has been examining twenty-five patients after they had been wearing leather supporting corsets for several months for some affection of the spine. Seventeen of the patients had been carefully examined before applying the orthopedic corset. He found unmistakable evidence of direct injury of the heart at the second examination in twelve of the seventeen, either in the form of an accentuated second pulmonary sound and bulging pulsation or of enlargement of the area of cardiac dulness. The patients giving negative findings had worn the support for less than a year, and probably would have developed the heart disturbances in time. The patients were mostly young girls with weak musculature, and the stiff orthopedic corset had hindered the normal excursions of the lungs in respiration. The importance of normal functioning of the lungs for the normal circulation through the heart is confirmed anew by the experiences in these cases. They show further that anything tending to impede the physiologic excursions of the lungs is liable to have a directly injurious action on the heart and circulation in the region. In the cases in which the corset was not worn constantly or was laid aside for certain hours daily, the injury was comparatively slight or no injury was apparent. When a supporting corset has to be worn constantly it should be cut out in such a way as to leave the lungs free to expand, and persons with weak muscles should not wear any stiff orthopedic corset unless absolutely necessary.

Monatsschrift für Kinderheilkunde, Leipsic

May, X, No. 2, pp. 55-130

111 Curds in Infants' Stools in Connection with Raw Milk Feeding. (Kaseinklumpen im Kinderstuhl im Zusammenhang mit Rohmilchernährung. I.) J. Ibrahim.
112 *Psychopathic Origin of Impulse to Run Away from Home. (Wandertrieb psychopathischer Knaben und Mädchen.) W. Schlieps.

112. **The Impulse to Run Away from Home.**—Schlieps remarks that little attention has been paid to the study of children who without any motive run away from home, and yet the instinct to do this proceeds from a pathologic basis, just as in adults. Heilbronner found fourteen children between 8 and 15 among the fifty-seven cases of *fugues*, poriomania or *Wandertrieb* on record. Signs of degeneracy were evident in all these cases. Schlieps agrees with Schultze that even when there is some apparent motive for the leaving home, the impulse to do so is largely if not entirely pathologic. The impulse may accompany the most diverse psychopathic conditions, although it is most frequent among degenerates and imbeciles. The child displays sometimes great ingenuity and cunning in getting away, but once free he is liable to push on aimlessly and he takes with him usually only foolish things, with no provision for food. Schlieps describes three cases from his recent experience, two in girls of 11 and 15. Heilbronner calls it the result of "dysphoria," the restless mood coming on more early each time and the resistance to it becoming weaker and weaker until there is a habitual tendency to vagabondage. Whipping the children to keep them from running away only increases the tendency. The main point in treatment is to enlighten the parents as to the true nature of their child's tendency to run away and to eradicate it before it becomes a habit. The habit once installed, institutional measures may be necessary to break it up and save the still normal mental faculties.

Münchener medizinische Wochenschrift

June 13, LVIII, No. 24, pp. 1281-1336

113 *Ovarian Hormone as Cause of Growth of Myomas. L. Seitz.
114 Influencing of Skin Reactions to Bacterial Toxins. F. Rolly.
115 Predigested Albumin Foods. (Ueber die Ernährung mit tief abgebauten Eiweisspräparaten.) F. Frank and A. Schittenhelm.
116 *Epinephrin to Induce Anemia for Radiotherapy. (Adrenalinanämisierung als Hautschutz in der Röntgentherapie.) K. Reicher and E. Lenz.
117 *Diagnosis of Pleurisy in Children. (Zur praktischen Diagnostik der Kinderpleuritis.) F. Hamburger.
118 *Diagnosis of Tumor in the Hypophysis. (Zur Kenntnis der Geschwülste der Hypophysengegend.) R. Kümmell.
119 Postpartum Hemorrhage. F. Heimann.
120 Diagnosis of Small-Pox. (Zur Pockendiagnose.) E. Paschen.
121 *Proctoclysis. (Bemerkungen zum rektalen Dauereinlauf.) W. Brünings.
122 Therapeutic Diathermia. A. E. Stein.
123 Salvarsan in the Hands of the General Practitioner. K. v. Stokar.
124 Repeated Suprasymphyseal Cesarean Section. (Zur Kasuistik des wiederholten suprasymphysären Kaiserschnittes.) K. Mayer and K. Hartmann.
125 Alcoholism in Munich. E. Wittermann.
126 Technic for Determination of Salvarsan. P. Beisele.

113. **Influence of Internal Secretion of the Ovary on Growth of Myomas.**—Seitz comments on the significance of the facts that myomas retrogress after castration and exposure of the ovaries to the Roentgen rays and during the menopause, and that myomas never develop until after the ovaries have reached maturity. All the evidence to date seems to show that the internal secretion of the ovaries influences the growth of uterine myomas. Tumors in the ovaries do not show this dependence on ovarian functioning; they are encountered at all ages.

116. **Anemia from Epinephrin in Roentgen-Ray Work.**—Reicher and Lenz state that it is possible by expelling the blood from the region with epinephrin, nearly to double the dosage of the rays without injury. This technic is especially adapted for subcutaneous cancers. They inject the epinephrin solution at several points over the area to be exposed and follow with the exposure at once. The exposure can be repeated the second and third days, and again after a pause of fourteen or eighteen days.

117. **Diagnosis of Pleurisy in Children.**—Hamburger has found that dulness over the entire side of the thorax is never encountered in children except in pleurisy, but exploratory puncture may be needed in dubious cases. The auscultation findings alone may be misleading, but differentiation of a purulent pleuritis is extremely important for treatment in time. The most frequent source of error is that the accumulation of fluid is taken for infiltration of the lung.

118. **Hypophysis Tumors.**—In two of the four cases which Kümmel has encountered, there was no change in the pulse-rate and no choked disk, but other signs of pressure on the brain were confirmed in one case by discovery at necropsy of a hypophysis tumor as large as a plum. A year or two after the first symptoms of trouble bitemporal hemianopsia was evident, a sign that the lesion affected not only the chiasm but undecussated parts of the optic nerve. There was no abnormal growth in these cases but the third patient, a man of 23, had the face of a man of 45, while the body was that of a boy of 14. The fourth patient was an obese girl of 14 with glycosuria and a myxedematous aspect and disturbances in vision and menstruation but no hemianopsia. Bitemporal hemianopsia, especially for colors, seems to be one of the most reliable signs of a hypophysis tumor as it was pronounced in three of the four cases reported.

121. **Coffee in Proctoclysis.**—Brünings urges the occasional substitution of coffee for the usual saline solution in proctoclysis, relating his personal experiences after operative treat-

ment of an intestinal affection. His thirst was intense and only partially relieved by continuous droplet proctoclysis with salt solution, and he had considerable nausea. The second day he begged to have a cup of coffee take the place of the salt solution, which was done, the coffee being sweetened and diluted to one-half the usual strength. This gave great relief and stimulation, and another cup of coffee was used in the same way, except unsweetened, in the afternoon. The benefit of the stimulating coffee was pronounced each time, and he advises this as a routine measure. The rectum absorbs hypotonic solutions with greater avidity and he does not think isotonicity is necessary in the fluids introduced to relieve the thirst after general anesthesia. There is no necessity, he states, to heat the fluid as the droplets get warm enough by the time they reach the rectum.

Wiener klinische Wochenschrift

June 15, XXIV, No. 24, pp. 851-890

127 *Localization of the Heart Sounds. (Lokalisation der Herztöne.) M. Heitler.
128 *Exacerbation of Tuberculosis in Origin of Phthisis. F. Hamburger.
129 Modifications of the Wassermann Test. (Nachprüfung der nach Angabe Müllers und Landsteiners modifizierten Methodik der Wassermannschen Reaktion mit nicht inaktiviertem Serum.) E. Epstein and S. Deutsch.
130 Alimentary Glycosuria and Epinephrin Glycosuria; Glycosuria in Pregnancy and Diabetes. M. Reichenstein.

127. **Localization of the Heart Sounds.**—Heitler states that several blunders in the diagnosis of valvular disease convinced him that the localization of the heart sounds as taught by the text-books is not always correct. He thus diagnosed a case of contracted kidney with functional mitral insufficiency as an organic mitral insufficiency with consecutive nephritis, and a case of arteriosclerosis with weak systolic murmur at the apex as mitral insufficiency. He has made a special study of this localization in 153 patients with various heart and kidney troubles and 120 normal persons, paying particular attention to influencing the action of the heart by reflex means. He found that brief mechanical irritation of distant regions increased the heart action while it reduced the heart action when long continued. Gentle stroking of the skin over the liver, for instance, augments the heart action. But considerable pressure over the liver region has an opposite effect, the sound of the left ventricle and aorta become weaker and deeper, the sounds of the right ventricle and pulmonary artery become stronger and usually higher; the energy of the left ventricle is reduced, the energy of the right ventricle augmented. This liver-heart reflex is useful to discriminate between mitral and tricuspid murmurs and it also determines the originating point of the sounds made by the right and left heart, as he explains in detail. In two cases this reflex explained the reduplication of the second sound. In a case of mitral stenosis there was reduplication of the second sound at the base; by pressure on the liver region the first element of the reduplication became more pronounced, the second element became weaker or disappeared entirely. This suggested that the double sound was not two stronger elements of the diastolic mitral murmur—as mitral murmurs grow weaker on pressure of the liver region——but rather that the first element of the double sound had its origin at the pulmonary, the second at the aorta.

128. **Phthisis and Exacerbation of Tuberculosis.**—Hamburger presents arguments to prove that bacilli may slumber in a tuberculous focus until the resisting powers are lowered from any cause or the bacilli acquire special virulence; then the focus flares up anew and pulmonary phthisis becomes installed. He is convinced that nearly everyone becomes infected with tuberculosis during childhood and that the primary focus induces a certain immunity. Foci from reinfection run a mild course and heal except possibly in the apices where the focus may persist in a latent form for years.

Zentralblatt für Chirurgie, Leipsic

June 10, XXXVIII, No. 23, pp. 793-824

131 Iodin Sterilization of Skin. (Jodtinkur bei Bauchoperationen.) P. Sick and A. Hofmann.
132 Pain Induced at McBurney's Point by Indirect Means. (Die Grundlage und der Wert des Rovsing'schen Schmerzphänomens zur Diagnose der Appendicitis.) T. Hausmann.

June 17, No. 24, pp. 825-856

133 Operative Treatment of Varicocele. A. Narath.
134 Thymol for Rapid Sterilization of the Skin. (Schnellidesinfektion des Operationsfeldes mit Thymolspiritus.) König and A. Hoffmann.

Zentralblatt für Gynäkologie, Leipsic

June 17, XXXV, No. 24, pp. 857-888

135 Puerperal Self-Infection. (Ueber den Begriff der Selbstinfektion.) H. Fehling.
136 Ovariotomy During Pregnancy. (Zur Kasuistik der Ovariotomie während der Schwangerschaft.) S. Rosenfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 8, XXXII, No. 69, pp. 731-738

137 *The Negative Wassermann Reaction in Pellagra. M. V. Carletti.

June 11, No. 70, pp. 739-754

138 *Case of Kidney Tuberculosis Plus Nephrolithiasis. G. Ferrarini.

June 13, No. 71, pp. 755-762

139 *Non-Gonorrheal Stricture of Urethra. (Dei restringimenti uretrali non blenorragici.) F. Cuturi.

137. **The Wassermann Reaction in Pellagra.**—Carletti was unable to obtain a positive reaction in any of the twenty pellagrins to whom the test was applied according to Wassermann's original technic. Repeating the test later, using lecithin for the antigen, according to Bass' technic, he obtained a positive reaction in one case, all the others being constantly negative. These negative findings are an argument against the assumption that pellagra is due to the action of a protozoon and thus they speak against Sambon's theory of the transmission of the disease by a sand-fly. One of Sambon's premises for this theory is the close analogy between pellagra and certain other diseases for which protozoa are responsible.

138. **Kidney Tuberculosis Plus Calculi.**—Ferrarini's patient was a man of 36 whose father died from cancer of the stomach and a brother from pulmonary tuberculosis while a sister had gout. He had passed through appendicitis eight years before since which the urine had occasionally been turbid, but the general health remained good until a few months ago when he began to grow pale and thin and finally developed a fever and tumefaction in the left kidney. The kidney was found to be the seat of two distinct morbid processes, nephrolithiasis with suppuration and tuberculosis. The latter seemed to have been primary, but a calculus in time became wedged into the outlet into the ureter; perforation followed with infiltration of urine around the ureter and also a purulent pyelonephritis, explaining the train of symptoms observed. The calculi and pus were removed and after an interval of ten days to allow the patient to recuperate, the kidney was removed and the patient has been in the best of health during the two years since.

139. **Non-Gonorrheal Stricture of the Urethra.**—Cuturi remarks that a syphilitic stricture is generally close to the meatus, being the relics of a syphilitic ulcer which is usually located close to the meatus. In one of the five typical cases reported in detail there was nothing to explain the stricture until the patient confessed that he had intentionally irritated the urethra at one time to escape compulsory military service. He accomplished it by introducing matches into the meatus, the phosphorus inducing a purulent secretion; when this had healed he repeated the procedure several times. The resulting stricture did not require to be cut until twenty years afterward. With a syphilitic stricture, it is necessary to follow the urethrotomy with dilatation as otherwise the stricture is liable to grow up again. In spastic constriction a fine sound can be passed without force, while an organic stricture arrests it completely. Tuberculous stenosis is liable to recur constantly from infiltration of the walls.

Policlinico, Rome

June 11, XVIII, No. 24, pp. 745-776

140 Fracture of Upper End of Tibia. P. Sabella.
141 Febrile Syphilis. G. Nistico.

June 18, No. 25, pp. 777-808

142 Experimental Tuberculosis of the Vagina. I. Scalona.

Riforma Medica, Naples

June 12, XXVII, No. 24, pp. 645-672

143 Disease of the Stomach. (Gastropatie dinamiche ed organiche. XVIII.) G. Rummo.
144 Melanotic Tumors. C. Licini.
145 Case of Blue Disease. (Caso di morbo ceruleo, stenosi ed insufficenza del l'arteria polmonare e pervieta del foro di Botallo.) U. Gasperini. Commenced in No. 23

Ugeskrift for Læger, Copenhagen

May 25, LXXIII, No. 21, pp. 751-790

146 *The Alleged Uric-Acid Diathesis. (Urinsyrediatesen.) E. Faber.

June 1, No. 22, pp. 791-822

147 Connection Between Vestibular Apparatus and Cerebellum. R. Barany.

148 Vibratory Massage in Rhinology and Laryngology N. R. Blegvad.

146. **Uric Acid Diathesis.**—Faber ridicules the theory of the uric acid diathesis, saying that the whole apparently harmonious and imposing structure when considered closer is seen to be based on premises which are either highly improbable or unproved. The physiologic bases are hollow or have long since crumbled away; the most important connections are missing and the steeple on the building—the treatment—rests for the most part on the empty air. Faber reviews the pathogenesis, the clinical experiences and symptomatology of the various affections which are grouped as manifestations of the uric acid diathesis, and shows how they all have one common causal factor which bridges the gaps between them all, and which does not need the assumption of any diathesis to explain the true inwardness of the various affections. This one common factor is immoderation in eating. The conditions leading to overeating and drinking being usually the same for the members of a family, it is no wonder that the assumed "uric acid diathesis" affects all the members of the family, thus explaining its familial and inheritable character. The injury from overeating is felt most severely in different organs in different individuals. This explains the "mysterious" alternation of affections in the different members of the family, as for instance Charcot's classical example of a family in which the father had diabetes with obesity and of his five sons, three had gout, one diabetes, obesity and a joint disease, one obesity, and a daughter and granddaughter gout and obesity. The anomaly in the nuclein metabolism which is found in true uric acid arthritis—the low endogenous elimination of uric acid with the periodic increase and the increased elimination of exogenous uric acid—is not encountered in the other affections which are included in the alleged uric acid diathesis. This conception often stands in the way of rational management of the case. With kidney calculi, for instance, alkalines are indicated while they are useless or do harm in uric acid arthritis. In the arthritis a prurin-free diet is often indicated, but this is an absolute blunder in the chronic anemia and debility of chronic polyarthritis or for asthenic patients with myalgia and neuralgia. The assumption of the uric acid diathesis often blinds the eyes of the physician to the necessity of seeking a psychic cause for disturbances, which may be the only key to proper treatment. On the other hand it is easier to incriminate the uric acid than to convince a patient that he is eating too much, but a radical cure or material improvement is possible only after a suitable anti-obesity or weaning course of dieting.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

DER HARN SOWIE DIE UEBRIGEN AUSSCHEIDUNGEN UND KÖRPERFLÜSSIGKEITEN VON MENSCH UND TIER. Ihre Untersuchung und Zusammensetzung in normalem und pathologischem Zustande. Ein Handbuch für Aerzte, Chemiker und Pharmazeuten Sowie zum Gebrauche an Landwirtschaftlichen Versuchsstationen. Herausgegeben von Carl Neuberg, Universitätsprofessor und Abteilungsvorsteher am Tierphysiologischen Institut der Königl. Landwirtschaftlichen Hochschule Berlin. Parts 1 and 2. Paper. Price, 58 marks. Pp. 1823, with illustrations. Berlin: Julius Springer. 1911.

THE SURGERY OF THE DISEASES OF THE APPENDIX VERMIFORMIS AND THEIR COMPLICATIONS. By William Henry Battle, F.R.C.S., Surgeon and Joint Lecturer on Surgery to St. Thomas' Hospital, and Edred M. Corner, M.A., M.B., M.C., F.R.C.S., Surgeon in Charge of Out-Patients and the Surgical Isolation Wards to St. Thomas' Hospital. Second Edition. Cloth. Price, $3 net. Pp. 291, with 100 illustrations. New York: William Wood & Co., 1911.

DIE SYPHILIS IM LICHTE DER MODERNEN FORSCHUNG MIT BESONDERER BERÜCKSICHTIGUNG IHRES EINFLUSSES AUF GEBURTSHÜLFE UND GYNÄKOLOGIE. Von Dr. Franz Weber, Assistent an der Kgl. Univ.-Frauenklinik und Privatdozent für Geburtshülfe und Gynäkologie an der Universität in München. Paper. Price, 4 marks. Pp. 128. Berlin: S. Karger, 1911.

SEMIOLOGIE RÉELLE DES SECTIONS TOTALES DES NERFS MIXTES PÉRIPHÉRIQUES. Considérations sur la Technique concernant l'étude des troubles des sensibilités, les modifications des réactions vaso-motrices et sudorales, les altérations trophiques ostéo-articulaires et cutanées. Par Henri Claude, Professeur Agrégé, Médecin de l'Hôpital Saint-Antoine et Stephen Chauvet, Interne des Hôpitaux de Paris. Paper. Price, 4 francs. Pp. 95, with illustrations. Paris: A. Maloine, 25-27, rue de l'Ecole-de-Medecine, 1911.

AN ATTEMPT TO CORRECT SOME OF THE MISSTATEMENTS MADE BY SIR VICTOR HORSLEY, F.R.S., F.R.C.S., AND MARY D. STURGE, M.D., IN THEIR CRITICISMS OF THE GALTON LABORATORY MEMOIR: A FIRST STUDY OF THE INFLUENCE OF PARENTAL ALCOHOLISM, ETC. By Karl Pearson, F.R.S. Questions of the Day and of the Fray. No. III. Department of Applied Mathematics, University College, London. Paper. Price, 1 shilling net. Pp. 42. London: Dulau & Co., 37 Soho Square, W., 1911.

THIRD ANNUAL REPORT OF THE MICHIGAN ASSOCIATION FOR TH' PREVENTION AND RELIEF OF TUBERCULOSIS. For Ten Months, March 1-Dec. 31, 1910. Containing Statement of Work Accomplished, Report of Convention at Ann Arbor, Report of Local Associations, State Needs, Work of Allied Societies, Report of Secretary and Treasurer. A Brief of the Ten Months' Work. Aldred S. Warthin, Secretary, Ann Arbor, Mich. Paper. Pp. 189.

AMERICAN MINERAL WATERS: THE NEW ENGLAND STATES. By W. W. Skinner, Chief, Water Laboratory. With a Chapter on Bacteriological Methods by G. W. Stiles, Jr., Bacteriological Chemist. Prepared Under the Direction of J. K. Haywood, Chief, Miscellaneous Division. Bull. 139, Bureau of Chemistry. U. S. Department of Agriculture. Paper. Pp. 111. Washington: Government Printing Office, 1911.

DIE PERORALE INTUBATION. Ein Leitfaden zur Erlernung und Ausführung der Methode mit reicher Kasuistik. Von Dr. Franz Kuhn, Elisabeth-Krankenhaus in Kassel. Mit einem Vorwort von Dr. O. Hildebrand, Direktor der chirurg. Klinik in der Kgl. Charité in Berlin. Paper. Price, 5 marks. Pp. 162, with 22 illustrations. Berlin: S. Karger, 1911.

A LABORATORY GUIDE IN BACTERIOLOGY. For the Use of Students, Teachers and Practitioners. By Paul G. Heinemann, Ph.D., Associate in Bacteriology, the University of Chicago. Second Edition. Cloth. Price, $1.50 net. Pp. 210, with 36 illustrations. Chicago: The University of Chicago Press, 1911.

SPECIAL MESSAGE OF GOVERNOR HERBERT S. HADLEY REGARDING THE CONTROL AND PREVENTION OF TUBERCULOSIS, TOGETHER WITH A REPORT OF THE VOLUNTARY COMMISSION TO THE FORTY-SIXTH GENERAL ASSEMBLY, 1911. J. Hal. Lynch, Secretary, 625 Locust St., St. Louis. Paper. Pp. 99.

LATERAL CURVATURE OF THE SPINE AND FLAT-FOOT, AND THEIR TREATMENT BY EXERCISES. J. S. Kellett Smith, F.R.C.S., Late Demonstrator of Anatomy at University College, Liverpool, etc. Cloth. Price, $2 net. Pp. 137, with 82 illustrations. New York: William Wood & Co., 1911.

HANDBOOK OF MEDICAL TREATMENT. A Guide to Therapeutics for Students and Practitioners, with an Appendix on Diet. By James Burnet, M.A., M.D., M.R.C.P., Fellow of the Royal Society of Medicine. Cloth. Price, $1.50 net. Pp. 168. New York: William Wood & Co., 1911.

DIE EPIDEMISCHE KINDERLÄHMUNG (HEINE-MEDINSCHE KRANKHEIT). Von Dr. Paul H. Römer, Abteilungsvorsteher am Institut für Hygiene und experimentelle Therapie in Marburg. Paper. Price, 10 marks. Pp. 256, with 57 illustrations. Berlin: Julius Springer, 1911.

PROCEEDINGS OF THE THIRTY-THIRD ANNUAL MEETING OF THE MISSOURI PHARMACEUTICAL ASSOCIATION, Held at Cape Girardeau, June 13, 14, 15 and 16, 1911. Constitution and Roll of Members. Paper. Pp. 167, with illustrations. Henry Whelpley, Secretary, St. Louis.

TRANSACTIONS OF THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS. Ninth Annual Meeting, Baltimore, Md., May 7, 1910. Vol. VII. Paper. Pp. 152. Dr. J. F. Munson, Secretary, Sonyea, N. Y.

MEMOIRA ANUARIO, CORRESPONDIENTE AL CURSO ACADEMICO (UNIVERSIDAD DE LA HABANA) DE 1909 A 1910. Que se Publica en Cumplimiento de lo que Dispone el Inciso 8 del Articulo 43 de os Estatutos de esta Universidad. Paper. Pp. 263.

REPORT OF WASHINGTON STATE BOARD OF HEALTH ON HOUSE BILL 211, OF THE ELEVENTH LEGISLATURE, 1909, RELATIVE TO THE ESTABLISHMENT OF A SANATORIUM FOR THE CARE AND TREATMENT OF INDIGENT CONSUMPTIVES. Paper. Pp. 66.

ELEVENTH BIENNIAL REPORT OF THE STATE BOARD OF HEALTH TO THE GOVERNOR OF NORTH DAKOTA. For the Years 1909 and 1910. Also Registration Report of Vital Statistics. Paper. Pp. 109. J. Grassick, Secretary, Grand Forks, N. D.

UEBER WERNICKES EINFLUSS AUF DIE KLINISCHE PSYCHIATRIE. Von Dr. H. Liepmann, Privatdozent an der Universität, Oberarzt an der Irrenanstalt Dalldorf der Stadt Berlin. Paper. Price, 1 mark. Pp. 37. Berlin: A. Karger, 1911.

ANIMAL INTELLIGENCE. Experimental Studies. By Edward L. Thorndike, Teachers' College, Columbia University. Cloth. Price, $1.60 net. Pp. 297, with 30 illustrations. New York: The Macmillan Co., 1911.

THE INTER-RELATION OF SOCIAL MOVEMENTS. With Information About Sixty-Seven Organizations. Paper. Pp. 32. New York: The Charity Organization Department of the Russell Sage Foundation, 1910.

LEITFADEN DER AKUSTIK FÜR OHRENÄRZTE. Von Dr. M. Th. Edelmann, Prof. h. c. der Kgl. techn. Hochschule, München. Paper. Price, 4 marks. Pp. 116, with 80 illustrations. Berlin: S. Karger, 1911.

BERICHTE DER DEUTSCHEN CHEMISCHEN GESELLSCHAFT. Vierundvierzigster Jahrgang. Nr. 10. June 17, 1911. Paper. Pp. 1339-1678. Berlin: R. Friedlander & Sohn, N. W. Karlstrasse 11, 1911.

SEVENTEENTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE CRAIG COLONY FOR EPILEPTICS AT SONYEA, LIVINGSTON COUNTY, N. Y. Paper. Pp. 127, with illustrations.

TWENTY-NINTH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH OF THE CITY OF BROCKTON, 1910. Paper. Pp. 65.